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Rawlins and Rock Springs Field Offices
May 2004

FINAL
ENVIRONMENTAL IMPACT STATEMENT
Desolation Flats Natural Gas Field Development Project
Sweetwater and Carbon Counties, Wyoming

MISSION STATEMENT

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Wyoming State Office
P.O. Box 1828
Cheyenne, Wyoming 82003-1828

In Reply Refer To:

1793 (930)

May 28, 2004

Dear Reader:

The Bureau of Land Management (BLM) has prepared this Final Environmental Impact Statement (FEIS) to document and disclose the results of an environmental analysis of an application received by the BLM to drill for and produce natural gas from leases within the Rawlins and Rock Springs Field Offices as detailed below. A copy of this document is provided for your review and comment. The FEIS may be reviewed on the BLM Wyoming homepage (*www.wy.blm.gov*). Copies of the FEIS also are available for public inspection at the following BLM offices.

Bureau of Land Management
Wyoming State Office
5353 Yellowstone Road
Cheyenne, WY 82009

Bureau of Land Management
Rock Springs Field Office
280 Highway 191 North,
Rock Springs, Wyoming 82901

Bureau of Land Management
Rawlins Field Office
1300 N. Third Street
Rawlins, WY 82301

A Draft EIS (DEIS) was published in April 2003, and the 60-day comment period ran from May 01, 2003, to July 1, 2003. One hundred and eighty one-letters to the DEIS were received during the comment period. Formal public hearings were held on June 7, 2003, in Rawlins, Wyoming, and June 8, 2003, at Rock Springs Wyoming, to receive oral comments on the DEIS. No comments were received from the public at these hearings. Comment letters are included in the FEIS package in Section 4, and BLM responses to those comments in Section 5 of the FEIS.

The BLM will accept public comments on the FEIS for thirty (30) days commencing on the date the Environmental Protection Agency publishes a Notice of Availability in the *Federal Register.* BLM will post the publication and closing dates for comments on its internet site when the precise date of publication is known.

If you wish to comment on the FEIS, your comments should relate directly to the document. We request that you make your comments as specific as possible and that you cite the location, or locations, in the document on which you are commenting. Substantive comments should: (1) give any new information that could alter conclusions; (2) show why or how analysis or assumptions in the FEIS are flawed; (3) show errors in data, sources, or methods; or (4) request clarifications that bear on conclusions. Comments that contain only opinions or preferences will not receive a formal response. However, they will be considered and included as part of the BLM decisionmaking process.

This FEIS was prepared pursuant to the National Environmental Policy Act and applicable regulations, and other applicable statutes, to address possible environmental and socioeconomic impacts that could result from this project. This FEIS is not a decision document. Its purpose is to inform the public and the agency decisionmakers of the impacts of natural gas exploration, development, and production within the Desolation Flats Project Area.

Freedom of Information Act Considerations: Comments, including names and street addresses of respondents, will be available for public review at the addresses listed above during regular business hours (8:00 a.m. - 4:30 p.m.), Monday through Friday, except holidays. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

Please send written comments to Bureau of Land Management, Rawlins Field Office, Attn: David Simons, 1300 N. 3rd Street, Rawlins, Wyoming 82301. Written comments may also be e-mailed to the attention of David Simons at DesFlats_WYMail@blm.gov. E-mail comments must include the name and mailing address of the commenter to receive consideration. Written comments may also be faxed to (307) 328-4224.

If you have any questions or would like to obtain additional copies of this Final EIS, please contact David Simons at (307) 328-4328 or at the above address.

Sincerely,

Alan L Kesterke

for Robert A. Bennett
State Director

ID: 88056898

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2004

FINAL ENVIRONMENTAL IMPACT STATEMENT

DESOLATION FLATS
NATURAL GAS FIELD DEVELOPMENT PROJECT

Prepared for

Bureau of Land Management
Rawlins Field Office
Rawlins, Wyoming

and

Bureau of Land Management
Rock Springs Field Office
Rock Springs, Wyoming

Prepared by

This Environmental Analysis was prepared by *Gary Holsan Environmental Planning*, an environmental consulting firm, with the guidance, participation, and independent evaluation of the Bureau of Land Management (BLM). The BLM, in accordance with Federal regulation 40 CFR 1506.5(a) and (b), is in agreement with the findings of the analysis and approves and takes responsibility for the scope and content of this document.

May 2004

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Desolation Flats
Natural Gas Development Project

Carbon County, Wyoming
Sweetwater County, Wyoming

ENVIRONMENTAL IMPACT STATEMENT

[ ] Draft [X] Final

Lead Agency:

U.S. Department of the Interior, Bureau of Land Management

Cooperating Agencies:

None

Counties That Could Be Directly Affected:

Carbon County, Wyoming
Sweetwater County, Wyoming

Abstract:

The Final EIS analyzes a proposal by Marathon Oil Company and other Operators to continue to drill additional development wells in their leased acreage within the Desolation Flats natural gas development area (approximately 233,542 acres) of southcentral Wyoming.

The Desolation Flats project area (DFPA) is located in Carbon County and Sweetwater County, Wyoming. The DFPA is generally located in Townships 13 through 16 North and Ranges 93 through 96 West, 6th Principal Meridian. Access to the DFPA is provided by WYO 789 from Interstate 80 at Creston Junction south to the intersection with Carbon County Road 608. Access to the interior of the project area is provided by an existing road network developed to service prior and on-going drilling and production activities.

The Proposed Action of drilling approximately 385 natural gas wells at 361 well locations, with a forecasted success rate of 65 percent (250 producing wells) was determined by summarizing drilling plans projected by the Desolation Flats Operators over the next twenty-year planning period. Drilling estimations were based on reasonably foreseeable spacing and drilling projections into areas within the project area where the planned production and development activities would occur. The proposed development is in addition to approximately 89 wells that have been drilled and developed in the project area. The proposed development wells, access roads, pipelines, and other ancillary facilities located on public lands would be permitted with the BLM and the Wyoming Oil and Gas Conservation Commission (WOGCC). Facilities located on privately owned surface would be permitted with the appropriate surface owner. The precise

number of additional wells, locations of the wells, and timing of drilling associated with the proposed natural gas development project would be directed by the success of development drilling and production technology, and economic considerations.

This EIS analyzes the impacts of the Proposed Action, alternatives to the Proposed Action, and the No Action Alternative. The EIS describes the physical, biological, cultural, historic, and socioeconomic resources in and surrounding the project area. The focus for impact analysis was based upon resource issues and concerns identified during public scoping.

Potential impacts of concern from development are to recreation and visual impacts; sage grouse breeding and nesting habitat and populations; special status plant and wildlife species; soil erosion and sediment increases within the project area; impacts to air quality; socioeconomic impacts to Carbon and Sweetwater Counties; and cumulative effects.

Other Environmental Review or Consultation Requirements:

This EIS, in compliance with Section 7(c) of the Endangered Species Act (as amended), includes the Biological Assessment for the purpose of identifying any endangered or threatened species which are likely to be affected by the proposed action.

Lead Agency Contact:

For further information, contact David Simons at the Rawlins Field Office, (307) 328-4328.

Comments on this final EIS should be submitted in writing to :

Bureau of Land Management
David Simons, Project Coordinator
P.O. Box 2407
Rawlins, Wyoming 82301

Date by which comments must be received by the BLM at the above address: 30 days following publication of the EPA Notice of Availability in the Federal Register.

Anticipated date of EPA Notice of Availability published in the Federal Register:

May 2004 (Refer to the Wyoming BLM website at www.wy.blm.gov to find the actual closing date of the comment period).

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PREFACE

The purpose of this Final environmental impact statement (EIS) for the Desolation Flats Natural Gas Field Development Project is to supplement the Draft EIS which was published in April 2003. Reviewed together, the Draft and Final EIS documents incorporate the description of the proposed project, other alternatives including the "No Action" alternative, the affected environment, as well as the analyses of potential environmental consequences resulting from construction, operation, and abandonment of the proposed project. This Final EIS should not be considered as a complete EIS, nor as a decision document. This FEIS is organized into five sections:

- Section 1, *Executive Summary* - Information presented in this section describes the NEPA process utilized in the analysis, briefly describes the Proposed Action and alternatives, provides a summary of the resource elements analyzed and a summary of their cumulative effects, and describes the agency-preferred alternative.

- Section 2, *Addendum and Errata* - Provides an addendum of additional discussion and studies which have been completed to address comments received during the comment period on the draft EIS. It also includes an errata section showing changes in the text of the Draft EIS which resulted from public comment or internal BLM review.

- Section 3, *Consultation and Coordination* - Summarizes the consultation and coordination that occurred during the preparation of the Desolation Flats Project Area EIS and background information regarding the consultation and coordination process.

- Section 4, *Comment Letters Received on the Draft EIS* - Provides a copy of the comment letters received during the public comment period on the draft EIS.

- Section 5, *Response to Comments* - Provides BLM's responses to those comments shown in Section 4.

- Two appendices not included with the draft EIS are provided in this final EIS. Appendix A contains the Formal and Informal Consultation for the Desolation Flats Natural Gas Project; Appendix B provides direction for cultural resources management within the DFPA.

In response to comments received concerning air quality impacts with implementation of the Desolation Flats Natural Gas Field Development Project and other projects, *Buys and Associates* prepared a Revised Air Quality Impact Assessment Technical Support Document (USDI-BLM 2004b), and the BLM revised the air quality sections of the draft EIS. Changes to the air quality sections are provided in Section 2, Addendum and Errata of this FEIS.

The draft and final EIS documents have been prepared according to the requirements of the National Environmental Policy Act of 1969 (NEPA) and the Council on Environmental Quality's regulations for implementing NEPA, effective July 30, 1979.

The analyses were based on a proposed schedule and maximum assumed level of development contained in the draft EIS. As the project is implemented, the impacts will be evaluated to determine if they fall within the parameters discussed in the draft and final EIS documents. Any major change in project design would require additional environmental analysis.

ABBREVIATIONS/ACRONYMS

ABBREVIATIONS/ACRONYMS

AACL	Acceptable Ambient Concentration Levels
ac-ft	acre feet
ac-ft/mi^2/yr	acre feet per square mile per year
ac-ft/yr	acre feet per year
ACHP	Advisory Council on Historic Preservation
Act	Endangered Species Act of 1973
ADT	average daily traffic
AML	Abandoned Mine Lands
analysis area	Desolation Flats Natural Gas Production Area
ANC	Acid Neutralizing Capacity
ANS	artifical nesting structure
AO	authorized officer
APD	Application for Permit to Drill
AQRV	Air Quality Related Values
AQTR	Air Quality Technical Report
AS-WWC	Archaeological Services of Western Wyoming College
AUM	Animal Unit Month
BA	Biological Assessment
BACT	Best Available Control Technology
bbl	barrel
BLM	Bureau of Land Management
BWPD	barrel of water per day
CBG	Creston/Blue Gap Natural Gas Project
CDPHE-APCD	Colorado Department of Public Health and Environment, Air Pollution Control Division
CEQ	Council for Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CIA	cumulative impacts analysis
CMP	corrugated metal pipe
CO	carbon monoxide
COE	Corps of Engineers
CWA	Clean Water Act
dBA	decibel
DEQ	Department of Environmental Quality
dia.	diameter
EA	environmental assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act of 1973
F	Farenheit
FAA	USDT Federal Aviation Administration
FEMA	Federal Emergency Management Act
FLPMA	Federal Land Policy and Management Act
FS	Forest Service
ft	foot (or feet)
FWS	U.S. Fish and Wildlife Service
g/hp-hr	grams per horsepower-hour

ABBREVIATIONS/ACRONYMS

gpm	gallons per minute
GPS	Global Positioning System
GWA II	Greater Wamsutter Area II
HAP	Hazardous Air Pollutants
hp	horsepower
H_2S	hydrogen sulfide
HWA	Hayden-Wing Associates
I-80	Interstate 80
ID	interdisciplinary
IDT	interdisciplinary team
IMPROVE	Interagency Monitoring of PROtected Visual Environments
IWAQM	Interagency Workgroup on Air Quality Modeling
km	kilometer
LOP	Life of Project
m	meter
MAC	Metcalf Archaeological Consultants
MEI	Maximally Exposed Individual
Merit	Merit Energy Company
mg/l	milligrams per liter
MLE	Most Likely Exposure
MMCFD	million cubic feet per day
mph	miles per hour
MSDS	Material Safety Data Sheet
MSHA	Mine Saftey Hazard Administration
N_2	Nitrogen
NA	not applicable
n.d.	no date
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NO_x	oxides of nitrogen
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSI	no significant impacts
NTU	Nephelometric Turbidity Unit
NWI	National Wetlands Inventory
OSHA	Occupational Safety and Health Administration
P&A'd	plugged and abandoned
pH	acidity measurement unit (negative logarithm of the hydrogen ion [H^+] concentration)
PI	Petroleum Information, Inc.
PIC	Planning Information Corporation
PM-2.5	particulate matter less than 2.5 microns in effective diameter
PM-10	particulate matter less than 10 microns in effective diameter
POD	Plan of Development
PSD	Prevention of Significant Deterioration
PPP	pollution prevention plan
RCRA	Resource Conservation and Recovery Act

ABBREVIATIONS/ACRONYMS

RFFAs	reasonably foreseeable future actions
RFO	Rawlins Field Office
RMP	Resource Management Plan
RMOGA	Rocky Mountain Oil & Gas Association
ROD	Record of Decision
ROW	Right-of-Way
SAR	Sodium Absorption Ratio
SARA	Superfund Amendments and Reauthorization Act
SBU	South Baggs Unit
SCS	Soil Conservation Service
SEO	Wyoming State Engineer's Office
SHPO	State Historic Preservation Office
SI	shut-in
SO_2	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasures
sq.	square
t/ac/yr	tons per acre per year
t/yr	tons per year
TDS	total dissolved solids
TPQ	threshold planning quantity
TSP	Total Suspended Particulate Matter
UAD	unquantified additional development
ug/m^3	micrograms per cubic meter
UNKI	unknown impact until site-specific location is proposed and surveys are completed
USDA	United States Department of Agriculture
USDC	United States Department of Commerce
USDI	United States Department of the Interior
USGS	United States Geological Survey
USLE	Unified soil loss equation
VOC	Volatile Organic Compounds
VRM	Visual Resource Management
w/	with
w/i	within
w/o	without
WDEQ-AQD	Wyoming Department of Environmental Quality, Air Quality Division
WESTAR	Western States' Air Resource Council
WET	Wetland Evaluation Technique
WGFD	Wyoming Game and Fish Department
WOGCC	Wyoming Oil and Gas Conservation Commission
WOS	Wildlife Observation System
WSGS	Wyoming State Geological Survey
WTA	Wyoming Taxpayers Association
WWC	Western Wyoming College
WYNDD	Wyoming Natural Diversity Database
WYO 789	Wyoming Highway 789
$\mu eq/l$	microequivalents per liter
$\mu g/m^3$	micrograms per cubic meter
°F	degrees Fahrenheit

SECTION 1:

EXECUTIVE SUMMARY

SECTION 1: EXECUTIVE SUMMARY

1.0 INTRODUCTION

This Final Environmental Impact Statement (FEIS) analyzes the impacts of drilling and production operations in the Desolation Flats natural gas producing area of southcentral Wyoming (Figure 1-1). The Desolation Flats project area (DFPA) is located in Carbon and Sweetwater Counties, Wyoming within Townships 13 through 16 North (T13-16N), Ranges 93 through 96 West (R93-96W), 6th Principal Meridian. The project area encompasses approximately 233,542 acres of mixed federal, State, and private lands. Of this total, approximately 224,434 acres are managed by the U.S. Department of the Interior (USDI) Bureau of Land Management (BLM), 2,335 acres are State of Wyoming lands, and 6,773 acres are private lands.

This FEIS has been prepared pursuant to the National Environmental Policy Act (NEPA) and addresses three field development scenarios (Proposed Action, Alternative A, and a "No Action" alternative- Alternative B. Details on the Proposed Action and alternatives are described in the DEIS according to the following chapters. **Chapter 1** defines the Purpose and Need for the proposed project. **Chapter 2** details the parameters of the Proposed Action and other alternatives as well as providing a summary of proposed mitigation and monitoring measures to avoid or reduce impacts proposed by the project operators. **Chapter 3** of the DEIS discusses the areas and resources that would be affected under each alternative. **Chapter 4** examines the environmental consequences to each resource under each alternative and also provides a summary of additional mitigation measures by resource discipline which were identified during the analysis process. The measures and requirements in the DEIS describe how implementation of the Proposed Action or alternatives should be managed to assure minimal impacts in the Desolation Flats project area (DFPA) and adjacent lands. **Chapter 5** describes the mitigation and monitoring measures that should be implemented to assure compliance with resource management goals and objectives provided in the Great Divide Resource Area Resource Management Plan (RMP) (Record of Decision and Approved Resource Management Plan, USDI-BLM 1990a); the Green River RMP and Record of Decision, USDI-BLM 1997), and applicable lease stipulations within the DFPA. **Chapter 6** of the DEIS summarizes the consultation and coordination accomplished with various federal, State, county, and local agencies, elected representatives, environmental and citizen groups, industries, and individuals potentially concerned with issues regarding the proposed drilling action and alternatives.

The DFPA is located within the administrative boundaries of the Rawlins Field Office (RFO) and Rock Springs Field Office (RSFO). Approximately 94 percent of the DFPA is located within the RFO area, with the remaining 6 percent located within the RSFO. The documents that direct management of federal lands within these areas are the RFO Great Divide Resource Management Plan (RMP) and the RSFO Green River RMP. The DFPA natural gas development is in conformance with management objectives provided in the Record of Decision (ROD) and Approved Great Divide and Green River RMPs, subject to implementation of prescribed mitigation measures proposed by the Operators in Chapter 2 of the DEIS and mitigation measures derived through analysis of impacts in Chapter 4, Environmental Consequences.

Drilling attempts within the DFPA have been successful. As of January 1, 2004, 89 producing and shut-in natural gas wells have been drilled in the DFPA.

SECTION 1: EXECUTIVE SUMMARY

The DEIS addresses a Proposed Action and two alternatives as described in greater detail in the DEIS and briefly summarized here.

1.1 PROPOSED ACTION AND ALTERNATIVES

1.1.1 Proposed Action

The Desolation Flats Operators have indicated that approximately 385 wells at 361 well locations, with a forecasted success rate of 65 percent (250 producing wells at 235 well locations), may be drilled in the DFPA. This is in addition to 89 wells previously approved in the DFPA.

Development would begin in 2004 (subsequent to the release of the ROD) within the DFPA and continue for approximately 20 years, with a life-of-project (LOP) of 30-50 years. Various associated facilities (e.g., roads, pipelines, power lines, water wells, disposal wells, evaporation ponds, compressor stations, gas processing facility) would also be constructed throughout the DFPA.

The DFPA would have a maximum of: 1,444 acres of new surface disturbance from well locations (including on-site gathering, measurement, and dehydration facilities); 542 miles (2,624 acres) of new roads or upgrades of existing roads, 361 miles (758 acres) of new pipeline and approximately 97 acres of new surface disturbance from ancillary facilities (i.e., 4 compressor stations [16 acres], one gas processing plant [30 acres], 3 water evaporation ponds [12 acres], 2 disposal wells [14 acres], and 10 water wells [25 acres]). Total new short-term surface disturbance resulting from the Proposed Action would be 4,923 acres (approximately 2.1 percent of the DFPA).

During the LOP (30-50 years), total disturbances would be reduced to 2,139 acres (336 acres associated with 235 wells having 1.43 acres of remaining disturbance per well site, 1,706 acres of roads [this assumes a 65 percent drilling success rate with roads to unsuccessful wells being reclaimed], and 97 acres of surface disturbance associated with ancillary facilities) or approximately 0.92 percent of the DFPA.

Specific components of the Desolation Flats Natural Gas Development program are discussed in the DEIS, Section 2.5 (Plan of Operations). Additional site-specific proposal and resource information would be contained in the individual well APD and/or ROW applications when submitted to the BLM. Prior to surface disturbance on some drill sites and associated roads, pipelines, and ancillary facilities located on federal surface or federal minerals, additional site-specific analyses may be required.

1.1.2 Alternative A

National demand for natural gas is expected to increase during the LOP, as is the likelihood that increased natural gas prices would also occur. With increased realized profits by the oil/gas industry from such demand, the economic realm of new drilling and production technology would also expand. Those areas within the DFPA that are currently considered marginal properties from an economic standpoint by the DFPA Operators may become economically feasible to develop by industry in the future. Should attempts by the Operators to develop marginal properties within the DFPA be successful, then the level of drilling and production activity on marginal properties could potentially increase. In order to analyze for the potential increases in drilling activity in the DFPA beyond those levels described in the Proposed Action, Alternative A was developed for analysis in this EIS. Alternative A would consist of an increased density of surface well pads and production facilities beyond that described in the Proposed Action to 592 natural gas wells at 555 locations, with a forecasted success rate of 65 percent. This is in addition to 89 wells previously approved in the DFPA. The levels of drilling activity provided in Alternative A were developed by BLM, in consultation with the DFPA Operators, and represent a potential increase in drilling activity that could be realized through further development of marginal properties within the DFPA.

Alternative A would be similar to the Proposed Action in that development would begin in 2004 (subsequent to the release of the ROD) within the DFPA and continue for approximately 20 years, with an LOP of 30-50 years. Various associated facilities (e.g., roads, pipelines, power lines, water wells, disposal wells, evaporation ponds, compressor stations, gas processing facility) would also be constructed throughout the DFPA.

The DFPA would have a maximum of: 2,220 acres of new surface disturbance from well locations (including on-site gathering, measurement, and dehydration facilities); 833 miles (4,035 acres) of new roads or upgrades of existing roads, 555 miles (1,166 acres) of new pipeline, and approximately 161 acres of new surface disturbance from ancillary facilities (i.e., 6 compressor stations [24 acres], 2 gas processing plant [60 acres], 4 water evaporation ponds [16 acres], 3 disposal wells [21 acres], and 16 water wells [40 acres]). Total new short-term surface disturbance resulting from Alternative A would be 7,582 acres (approximately 3.2 percent of the DFPA).

During the LOP (30-50 years), total disturbances would be reduced to 3,300 acres (516 acres associated with 361 well locations having 1.43 acres of remaining disturbance per well site, 2,623 acres of roads [this assumes a 65 percent drilling success rate with roads to unsuccessful wells being reclaimed] and 161 acres of surface disturbance associated with ancillary facilities), or approximately 1.4 percent of the DFPA.

The technical requirements for Alternative A are the same as described for the Proposed Action; however, more overall site disturbance requirements would be necessary for the additional well sites, access roads, pipelines, and ancillary facilities.

As with the Proposed Action, additional site-specific proposals and resource information would be contained in the individual well APD and/or ROW applications when submitted to the BLM. The BLM would prepare environmental assessments tiered to the EIS when necessary.

1.1.3 Alternative B - No Action

The regulations implementing Section 1502.14(d) of the NEPA require that the alternatives analysis in the EIS "include the alternative of no action" (43 CFR 1502.14 (d). For this project, the No Action Alternative is denial of the drilling and development proposal as submitted by the Operators. However, the Department of the Interior's authority to implement a "No Action" alternative which precludes drilling by denying the project is limited. An explanation of this limitation and the discretion the Department has in this regard is as follows:

An oil and gas lease grants the lessee the "exclusive right and privilege to drill for, mine, extract, remove and dispose of all oil and gas deposits" in the leased lands, subject to the terms and conditions incorporated in the lease (Form 3100-11). Because the Secretary of the Interior has the authority and responsibility to protect the environment within federal oil and gas leases, restrictions are imposed on the lease terms.

Leases within the DFPA contain various stipulations concerning surface disturbance, surface occupancy, and limited surface use. In addition, the lease stipulations provide that the Department of the Interior may impose "such reasonable conditions, not inconsistent with the purposes for which (the) lease is issued, as the (BLM) may require to protect the surface of the leased lands and the environment." None of the stipulations, however, would empower the Secretary of the Interior to deny all drilling activity because of environmental concerns.

Provisions in leases that expressly provide Secretarial authority to deny or restrict APD development in whole or in part would depend on an opinion provided by the U.S. Fish and Wildlife Service (FWS) regarding impacts to endangered or threatened species or habitats of plants or animals that are listed or proposed for listing. If the FWS concludes that the proposed action and alternatives would likely jeopardize the continued existence of any endangered or threatened plant or animal species, then the APD(s) and Desolation Flats development may be denied in whole or in part.

Authorizations granted in previously approved projects located within the DFPA would remain in effect until a Record of Decision (ROD) is approved for the Desolation Flats project. These projects include the Mulligan Draw natural gas project (Mulligan Draw EIS and ROD, USDI-BLM 1992b), and the Dripping Rock Unit/Cedar Breaks oil and gas field development (Dripping Rock Unit/Cedar Breaks Oil and Gas Field Development EA and DR, USDI-BLM 1985).

Based on the above explanation, this alternative would deny the proposal as submitted but would allow consideration of individual APDs on federal lands on a case-by-case basis through individual project and site-specific environmental analysis. Transport of natural gas products would be allowed from those wells within the project area that are currently productive. Additional gas development could occur on State and private lands within the project area under APDs approved by the WOGCC.

1.1.4 Major Impact Conclusions

The following sections summarize impacts to the various resource elements identified during the analysis process for each alternative. Under the No Action Alternative, authorizations granted in previously approved projects located within the DFPA would remain in effect. These projects include the Mulligan Draw natural gas project and the Dripping Rock Unit/Cedar Breaks oil and gas field development. The Mulligan Draw ROD authorized the Mulligan Draw operators to drill and develop a maximum of 45 wells on 640-acre spacing. The Dripping Rock Unit/Cedar Breaks Decision Record (DR) authorized the operators to drill and develop a maximum of 58 wells on 640-acre spacing. Other exploratory and development activities could occur outside these previously approved projects within the DFPA following site-specific analysis.

2.0 RESOURCE ELEMENTS ANALYZED

2.1 Geology/Minerals/Paleontology

Implementation of the Proposed Action and Alternative A would result in disturbance excavation associated with the development of well pads, access roads, pipelines and other production facilities which could directly result in the exposure and damage or destruction of scientifically significant fossil resources. The potential magnitude of impact to fossil resources associated with the action alternatives (the Proposed Action and Alternative A) varies proportionally with the total number of wells which would be developed under each alternative. The magnitude of impact for Alternative B - No Action, which may allow additional APDs and ROW action on a case-by-case basis, is unknown at present and would depend on the specific action taken and the specific area involved. Potential for impacts to project facilities as a result of seismic activity is low, as is the potential for landslides and road subsidence that would temporarily close access roads. No significant impacts to important surface resources or other geologic resources would occur under the Proposed Action. Mitigation measures discussed in Chapters 2 and 4 should reduce potential impacts to geologic/paleontologic resources.

Beneficial impacts under the action alternatives include the unanticipated discovery of previously unknown fossil resources within the project area. The potential beneficial impact to fossil resources is not precisely known because field survey of the project area has not been conducted.

2.2 Air Quality

As a result of the extended delay in the publication of the DEIS, certain elements of the air quality impact analysis were dated. In response, the DEIS air quality section was revised in order to address the following issues: 1) The ambient air quality standards were revised to reflect the current regulatory status in Wyoming; 2) background criteria pollutant concentrations and visibility conditions were updated; 3) updated significance criteria for hazardous air pollutants were incorporated; 4) an updated mitigation analysis was incorporated; and 5) the cumulative analysis was updated with a qualitative discussion. Based on these revisions, potential air quality impacts were re-analyzed and reported in both the FEIS and a Revised Air Quality Technical Support Document.

These revisions to the DEIS did not substantially alter the results of the air quality analysis. No significant adverse impacts to air quality are anticipated as a result of the implementation of the Proposed Action, Alternative A or the No Action Alternative. Localized increases in criteria pollutants would occur, but maximum concentrations would be below applicable federal and state standards. Similarly, hazardous air pollutant concentrations and incremental increases in cancer risk would also be below applicable significance levels. Potential impacts to visibility and acid neutralizing capacity would be below the levels of acceptable change.

Under Alternative A, 592 wells would be developed with an expected success rate of 65 percent or 385 producing wells. The Proposed Action represents a 35 percent decrease in development when compared to Alternative A, and it is expected that compression requirements for the Proposed Action would also be decreased by a similar percentage. Potential air quality impacts resulting from the implementation of Proposed Action would be proportionally less than the impacts resulting from Alternative A. No significant adverse impacts to air quality are anticipated as a result of the implementation of either the Proposed Action or Alternative A.

Impacts to air quality under the No Action Alternative would occur at allowable levels and no significant impacts are anticipated. Actions approved under the Mulligan Draw EIS and Dripping Rock/Cedar Breaks EA may still be completed within the project area. Completion of the previously approved actions would involve the development of approximately 71 wells, therefore the impacts are expected to be less than Alternative A or the Proposed Action. In the absence of further development in the DFPA, no additional project related air quality impacts would occur.

2.3 Soils

Impacts resulting from drill pad, access road, facility site, and pipeline ROW construction could include removal of vegetation, exposure of the soil, mixing of soil horizons, soil compaction, loss of topsoil productivity, and increased susceptibility of the soil to wind and water erosion.

Construction of the Proposed Action would variously disturb approximately 4,923 acres of soil. This total area of temporary disturbance would comprise approximately 2.1 percent of the 233,542 acre project area. Combined with the existing disturbance of 1,506.4 acres, total disturbance would be approximately 6,429.4 acres or 2.8 percent of the 233,542 acre project area. This total area of temporary disturbance would be reduced through successful reclamation.

During the life of the project (30-50 years), total disturbances would be reduced to 2,139 acres (336 acres associated with 235 wells having 1.4 acres of remaining disturbance per well site, 1,706 acres of roads [this assumes a 65 percent drilling success rate with roads to unsuccessful wells being reclaimed] and 97 acres of surface disturbance associated with ancillary facilities) or approximately 0.92 percent of the 233,542 acre project area.

Well pads would be reclaimed to the 1.4 acre of disturbance/well and remaining disturbed road dimensions would be approximately 16.0 feet wide, or 0.6 acres per well, and 0.0 acres for pipelines. The ancillary facility would not be reclaimed since the full size of the site would be needed during production. These remaining disturbance areas would represent approximately 2,139 acres or 0.92 percent of the total project area. This disturbance would be combined with the existing disturbance of approximately 1,506.4 acres for a total of 3,645.4 acres, or 1.6 percent of the 233,542 acre project area. This long-term disturbance would not preclude achievement of the objectives of the Great Divide and Green River RMP's and significance criteria described in Chapter 4 for soils.

Construction under Alternative A would variously disturb approximately 7,582 acres of soils. This total area of temporary disturbance would comprise approximately 3.2 percent of the 233,542 acre project area. Combined with the existing disturbance of 1,506.4 acres, total project area disturbance would be approximately 9,088.4 acres or 3.9 percent of the 233,542-acre project area.

During the life of the project (30-50 years), total disturbances would be reduced by reclamation to 3,300 acres or approximately 1.4 percent of the 233,542-acre project area. This disturbance would be combined with the existing disturbance of approximately 1,506.4 acres for a total of 4,806.4 acres, or 2.1 percent of the project area.

Under the No Action Alternative, soils would be impacted as described for the action alternatives as APDs are granted by the BLM pursuant to previous authorizations. Similar erosion, runoff, and sediment control and revegetation measures would be applied to minimize adverse impacts to soils. Such methods would likely reduce impacts of the No Action Alternative to non-significant levels.

2.4 Water Resources

Potential impacts due to the proposed project include increased surface water runoff and off-site sedimentation due to soil disturbance; increased salt loading and water quality impairment of surface waters; and channel morphology changes due to road and pipeline crossings. The magnitude of impacts to water resources would depend on the proximity of the disturbance to the drainage channel, slope aspect and gradient, degree and area of soil disturbance, soil character, duration of time within which construction activities would occur, and the timely implementation and success/failure of mitigation measures. Impacts would likely be greatest after the start of construction activities and would likely decrease in time due to natural stabilization, reclamation, and revegetation efforts. Construction activities would likely occur within a 20 year period. Petroleum products and other chemicals could be accidentally spilled resulting in surface and groundwater contamination. Similarly, reserve and evaporative pits could leak and degrade surface and groundwater if liners were punctured or liners were not installed. Authorization of the proposed project would require full compliance with RMP management directives that relate to surface and groundwater protection, Executive Order 11988 (flood plains protection), and the Federal Clean Water Act (CWA) in regard to protection of water quality and compliance with Section 404.

The proposed state-of-the-art drilling and completion techniques make it unlikely that aquifer contamination would occur during drilling. Should aquifer mixing occur, the magnitude of mixing would be relatively small due to the relatively short period of time drilling is conducted. A Spill Prevention, Control, and Countermeasure Plan would be implemented to prevent petroleum products and other chemicals from contaminating groundwater aquifers. If deemed necessary, reserve and evaporative pits would be lined to prevent drilling fluids and produced water from contaminating aquifers.

Authorization of the Proposed Action or Alternative A would require full compliance with RMP management directives that relate to surface and groundwater protection, EO 11990 (Protection of Wetlands), and the CWA in regard to protection of water quality and compliance with Section 404. These regulations require that certain permits/authorizations be obtained for project authorization including an NPDES permit; a surface runoff, erosion, and sedimentation control plan; an oil spill containment and contingency plan; and CWA Section 404 permits. Most of the ephemeral drainage channels within the DFPA are classified as Waters of the U.S. and are often associated with jurisdictional wetlands. Crossings of these channels and associated wetlands would require authorization from the COE through the CWA Section 404 permitting process. Other project facilities such as well sites and/or facilities sites could not be located in Waters of the U.S. and therefore, Section 404 permitting would not be necessary for such facilities. Each individual channel crossing would be reviewed during the APD/ROW permitting process for specific permit requirements under Section 404 of the CWA. No significant impacts would likely result given the assumptions and compliance with management direction identified previously. Most adverse impacts to water resources would be avoided or reduced through implementation of mitigation measures identified in Chapter 2.

Under the No Action Alternative, individual APD's would continue to be approved by the BLM on a case-by-case basis.

2.5 Vegetation/Wetlands

Implementation of the Proposed Action or Alternative A would result in vegetation removal and soil handling associated with the construction and installation of well pads, pipelines, access roads, and other facilities as described in Chapter 2 of the DEIS. Direct impacts would include the short-term loss of vegetation (modification of structure, species composition, and areal extent of cover types). Indirect impacts would include the short-term and long-term increased potential for invasive plant establishment and expansion; exposure of soils to accelerated erosion; shifts in species composition and/or changes in vegetative density; reduction of wildlife habitat; and changes in visual aesthetics.

The duration and magnitude of impacts to vegetation cover types would depend on the locations of well sites and access roads, the success of mitigation and revegetation efforts. In terms of successful site stabilization, necessary time should be on the magnitude of 3-5 years. Revegetation success would depend on the amount and quality of topsoil salvaged, length of time stockpiled, and respread depth over disturbed areas, as well as seed quality and post-seeding weed control efforts.

The likelihood of impact is greatest for the primary vegetation cover types of Wyoming big sagebrush, desert shrub, and basin exposed rock/soil types which occupy 83.8 percent of the project area. Except for habitats occupied by plant species of concern, clearing of upland cover types would not be significant because upland cover types are generally abundant and widely distributed throughout the region and/or have been previously impacted (e.g., disturbed land).

Under the No Action Alternative, vegetation would continue to be impacted as individual APDs are granted by the BLM. Loss of upland cover types would not be significant. If present, impacts to wetlands would be assessed and mitigated on a case-by-case basis similar to the action alternatives. Rare plant surveys would continue to be performed prior to earth-surface disturbance activities associated with individual projects. Invasive plant programs would be implemented per stipulations in individual APDs.

2.6 Range Resources and Other Land Uses

Construction of the Proposed Action would temporarily affect 4,923 acres (1,444 acres for well locations and associated facilities, 97 acres for ancillary facilities, 758 acres for pipelines, and 2,624 acres for road ROWs). Assuming that reclaimed areas would be suitable for grazing after five years, a maximum of 2,871 acres would be disturbed at any one time. Once reclamation has been satisfactorily completed on all disturbed areas, the total area of impact would be reduced to approximately 2,139 acres.

Stocking rates for the 12 RFO-administered grazing allotments affected by the Proposed Action and alternatives average 12 acres per AUM. The one affected grazing allotment administered by the RSFO averages 9 acres per AUM. Depending on the actual locations of the drilling and ancillary facilities with respect to forage productivity, lost forage could result in an average annual loss of 158 AUMs (over the 30-50 year LOP) in the RFO portion of the project area (about one-half of one percent of the 31,000 total AUMs in these allotments) and an average annual 12 AUMs in the RSFO portion. The portion of the RSFO-administered allotment (the Rock Springs Allotment) that lies within the DFPA receives little or no use because of terrain and access considerations, so temporary loss of forage in that area would not be likely to impact grazing levels in that allotment. The estimated average annual loss of 12 AUMs would represent a negligible portion of the 109,442 AUMs permitted for the Rock Springs Allotment.

The increased activity associated with drilling and field development would result in increased opportunities for vehicle/livestock collisions, particularly in the period immediately after lambing and calving season when young animals are active and difficult to see. Given the low traffic volumes associated with field operations, vehicle/livestock collisions are of less concern for the long term. There is also increased potential for damage to livestock control structures and concern for the timely repair of structures to BLM standards. Construction of roads in the project area could allow livestock operators additional access for livestock management operations.

Drilling and construction activities could allow introduction of invasive/non-native species into the DFPA. Invasive/non-native species compete with desirable species, rendering an area less productive as a source of forage for livestock and wildlife.

The area removed from forage production under Alternative A could result in an average annual loss of 248 AUMs (over the 30-50 year LOP) in the RFO portion of the DFPA (about 0.8 of one percent) and 18 AUMs in the RSFO portion. The potential for livestock/vehicle accidents, damage to livestock control structures and spread of invasive/non-native species would increase along with the 55 percent increase in drilling and construction activity associated with Alternative A.

Under Alternative B (No Action), development would proceed on a case-by-case basis. Development within the Mulligan Draw and Dripping Rock Unit/Cedar Breaks area would be authorized not to exceed one well per 640 acres. The amount of forage lost, the potential for livestock/vehicle accidents, damage to livestock control structures and spread of invasive/non-native species would depend on the actual level of drilling and construction activity that would occur under Alternative B.

2.7 Wildlife

The implementation of either the Proposed Action or Alternative A would result in direct loss of wildlife habitat from surface disturbance associated with the construction of well sites and related access roads and pipelines. In addition, some wildlife species would be indirectly impacted by temporary displacement from habitats in the vicinity of disturbed areas. The potential for collisions between wildlife and motor vehicles would also increase due to the construction of new roads and increased traffic levels on existing roads. The nature of impacts to wildlife is similar between the Proposed Action and Alternative A. However, the magnitude of potential impacts would be greater under Alternative A, because of the greater number of well sites and increased number of miles of associated access roads and pipelines. These impacts are not expected to be significant under either action alternative and would decrease after completion of construction and successful reclamation. Potential impacts to wildlife under the No Action Alternative would be similar in nature to those under the action alternatives, but at a reduced level. Significant impacts to wildlife species under the action alternatives would be avoided through application of the Wildlife Monitoring/Protection Plan (Appendix H of the DEIS) and all appropriate mitigation measures identified in this document.

The DFPA contains yearlong and crucial winter range for pronghorn, elk, and mule deer. A small percentage of seasonal big game ranges are expected to be impacted directly and big game species may be indirectly impacted through displacement. Direct, indirect, and cumulative impacts to big game species would be greater under Alternative A than the Proposed Action, but are not expected to be significant under either action alternative. Potential impacts to wild horses are not expected to be significant under any alternative.

Leks and nesting habitat of greater sage-grouse leks are present on the DFPA. Active leks would be avoided, and therefore, would not be disturbed. A small percentage of nesting habitat may be disturbed, but impacts are not expected to be significant. Direct, indirect, and cumulative impacts to greater sage-grouse would be greater under Alternative A than the Proposed Action, but are not expected to be significant under either action alternative.

Raptor nests occur in and adjacent to the DFPA. Activity status of raptor nests located near project related developments would be monitored as development occurs. Significant impacts to raptors are not expected given the application of mitigation measures that would preclude nest abandonment or reproductive failure. Direct, indirect, and cumulative impacts to raptors would be greater under Alternative A than the Proposed Action, but are not expected to be significant under either action alternative.

The application of prescribed avoidance, monitoring (Wildlife Monitoring/Protection Plan, Appendix H) and mitigation measures in this document would reduce the impact potential and allow for either of the action alternatives to be performed without significant impacts to wildlife resources.

2.8 Special Status Plant and Wildlife Species

Threatened, endangered, candidate, and proposed plant and wildlife species that may potentially occur on the DFPA include: Ute ladies-tresses, black-footed ferret, bald eagle, and Canada lynx. The Ute ladies-tresses is not expected to occur on the DFPA due to lack of suitable habitat. A small percentage of potential black-footed ferret habitat may be disturbed. The potential for collisions between bald eagles and motor vehicles may increase due to the construction of new roads and increased traffic levels on existing roads. The Canada lynx is not expected to occur on the DFPA due to a lack of suitable habitat. Threatened, endangered, and proposed fish species that occur downstream of the DFPA in the Colorado River System include: Colorado pikeminnow, humpback chub, bonytail, and razorback sucker. None of the threatened, endangered, and proposed wildlife and fish species are expected to be adversely effected under either action alternative.

A total of 35 BLM State of Wyoming sensitive wildlife and fish species may occur on the DFPA. State of Wyoming sensitive species, as defined by the BLM, are those that could become endangered or go extinct within the State. A small percentage of potential habitat for several sensitive wildlife species may be disturbed. However, none of the sensitive wildlife and fish species are expected to be significantly impacted under either action alternative.

The application of prescribed avoidance, monitoring (Wildlife Monitoring/Protection Plan, Appendix H of the DEIS) and mitigation measures in this document would reduce the impact potential and allow for either of the action alternatives to be performed without significant impacts to special status wildlife species.

2.9 Recreation

Well drilling, testing and production operations, and associated site preparation and construction activities cause alterations to the recreation setting and recreation opportunities available to persons using the area. Some recreationists could be temporarily or permanently displaced from certain locations associated with drilling and production activities. Displacement of recreationists could also result from changes in the numbers or distribution patterns of wildlife that attract hunters and wildlife observers to the area. The presence of construction and drilling equipment and associated increase in industrial activities in the area could reduce opportunities for recreationists seeking to experience solitude and isolation from human activity. Such changes could also result in displacement or redistribution of recreationists who would choose to avoid such conditions, as well as result in reduced satisfaction among others who might continue to engage in recreation activities in the area.

There would be no significant adverse impact to recreation resources if recommended mitigation measures are employed with the exception of that part of the project area located inside the Monument Valley Management Area (MVMA). However, some users would be temporarily or permanently displaced and for some that continue to recreate in the area, the experience would be diminished. Several generations of recreationists could be affected.

MVMA and WSA

The MVMA is located within the checker board land pattern within the project area. Drilling and possible production activities in the 14 square miles of BLM administered lands in the DFPA inside the MVMA would have significant adverse impacts to the future recreation potential of those 14 sections; impacts would include surface disturbance, changes to general landscape character and visual resources. Future generations of recreationists would be denied the possibility of experiencing isolation and solitude afforded by those 14 sections as part of a potential future special management area.

Also, drilling within the MVMA and along the 21 mile long common boundary between the DFPA and the Adobe Town WSA could preclude quality recreation opportunities for those seeking solitude and isolation within the northern and western portion of the adjacent Adobe Town WSA until all wells have been abandoned and fully reclaimed. Attempts to mitigate by screening and distancing the project components from the edge of the WSA would not completely eliminate the influence of oil and gas development on the WSA. This is considered a significant impact.

2.10 Visual Resources

Both short-term and long-term impacts to the visual resources would occur where patterns of area, line, form, color, and texture in the characteristic landscape would be contrasted by drilling equipment, production facilities, and/or construction related damage to vegetation, topography or other visible features. The severity of impact depends upon scenic quality, sensitivity level, and distance zone of the affected environment, reclamation potential of the landscape disturbed, and the level of disturbance to the visual resource created by the Proposed Action.

Adverse impacts from well construction would occur within the short term due to contrast in line, form, color and textures associated with equipment, surface disturbance, and fugitive dust juxtaposed with the existing landscape. Long-term impacts would result from production facilities, access roads, and fugitive dust.

With the exception of the 23 square miles of project area inside the MVMA (14 square miles of BLM administered lands), there would be no significant adverse impact to visual resources if recommended mitigation measures are employed. However, some users would be temporarily or permanently displaced and for some that continue to recreate in the area, the visual experience would be diminished because of noise, dust and a general degradation of visual quality.

MVMA and WSA

Drilling in the MVMA could preclude high visual quality recreation opportunities for those seeking solitude and isolation within the northern and western portion of the DFPA and adjacent Adobe Town WSA until all wells have been abandoned and fully reclaimed. Several generations of recreationists could be affected. This is considered a significant adverse impact.

2.11 Cultural Resources

Potential impacts to specific eligible or unevaluated properties are unknown at this time. In general, the DFPA has a moderate to high site density, and therefore, high archaeological sensitivity. Certain geomorphic situations have a greater archaeological potential than other areas especially in terms of significant cultural resources. These situations include eolian deposits (sand dunes, sand shadows and sand sheets) and alluvial deposits along major drainages.

Although the DFPA has a high degree of archaeological sensitivity, impacts to known cultural properties would not be significant with implementation of the Proposed Action or alternatives. Potential impacts to known and anticipated cultural resources can be alleviated through appropriate mitigation measures. If cultural resources on, or eligible to, the National Register are to be adversely impacted by the proposed development, then the applicant, in consultation with the surface managing agency and the SHPO, shall develop a mitigation plan. Construction would not proceed until terms of the mitigation plan are satisfied.

2.12 Socioeconomics

Economic effects of the drilling and field development phase of the Proposed Action would include an estimated $840 million in direct expenditures to the Operators, which would generate an estimated total of $1.145 billion in total economic impact (including $154 million in earnings) in southwestern Wyoming over the 20-year field development period. The operations phase of the Proposed Action would generate $2.977 billion in total economic impact including $218.4 million in earnings over the 30 to 50 year life of the project. This positive economic impact would be offset slightly by reductions in grazing activity. Under the estimates and assumptions used for this assessment, these reductions would total $442,000 including $80,000 in earnings over the life of the project. It is possible that the Proposed Action would result in reductions in economic activity associated with hunting and other recreation activities in the DFPA, although the increased access afforded by development of roads may attract some new hunters and recreation visitors. Displaced hunters and recreationists may relocate to other areas within southwest Wyoming, although opportunities for solitude and isolation are becoming increasingly limited within the region.

The Proposed Action would result in an estimated 246 drilling and field development annual job equivalents (direct and indirect) and 156 production-related annual job equivalents in southwest

Wyoming. Some of these jobs would be filled by existing residents, however, an estimated peak in-migrant population of 442 workers is anticipated for the year 2021. This population would be disbursed throughout southwest Wyoming but likely concentrated in Rock Springs and, to a lesser extent, Rawlins. These communities could accommodate anticipated population growth with existing housing resources and infrastructure, but small communities closer to the DFPA (Wamsutter and Baggs) would need to develop housing and improve some infrastructure before being able to absorb substantial additional population. Wamsutter and Baggs would receive minimal tax revenues from the Proposed Action and would be required to seek other sources of funding to develop infrastructure to accommodate growth.

The Proposed Action would generate an estimated $123 million in property tax revenues for Sweetwater County over the life of the project and $15.5 million in Carbon County. The Proposed Action would also generate an estimated $5.3 million in sales and use tax revenue for the State of Wyoming, $3.4 million for Sweetwater County and $471,000 for Carbon County. Proposed Action-related Mineral Severance Tax revenues to the State of Wyoming would total an estimated $119 million, and Wyoming's share of Federal Mineral Royalties would total an estimated $283 million.

Community acceptance of the Proposed Action would be mixed. Some residents, particularly those with direct and indirect interests in oil and gas development, would likely be supportive. Those who believe that recreation resources, wildlife habitat and relatively undisturbed landscapes in the project area would be negatively impacted would be dissatisfied with implementation of the Proposed Action.

The economic, employment, population and fiscal effects of Alternative A would be about 54 percent greater than those associated with the Proposed Action. Under current conditions, the communities of Rock Springs and Rawlins could accommodate this growth with existing resources. If new housing were to be developed in the communities of Wamsutter and Baggs and a substantial number of Project employees were to relocate to these communities, existing infrastructure could be strained under Alternative A.

Community acceptance would likely remain mixed under Alternative A, but an increased number of residents might believe that recreation, wildlife habitat and undisturbed landscapes would be negatively impacted by the increased level of development.

Economic, employment, population and fiscal effects of Alternative B (No Action) would be dependent on the level of drilling and field development which actually occurs in the Mulligan Draw and Dripping Rock Unit/Cedar Breaks area coupled with that approved by the BLM on a case-by-case basis, and by the WOGCC on private and State-owned lands. Similarly, community acceptance of the No Action Alternative would remain mixed and dependent on the level of development actually approved. Those that support oil and gas development would likely be dissatisfied with the foregone economic opportunities associated with the Proposed Action and Alternative A. Hunters and recreationists who use the Project Area would experience less dissatisfaction with loss of isolation, solitude and undisturbed landscapes under Alternative B, unless development occurs in areas that are routinely used by these groups.

2.13 Transportation

Access to the project area is provided by I-80, Wyoming State Highway 789 (WYO 789), Colorado Highway 13 (CO 13) Sweetwater County Road 23/Carbon County Road 701 (SCR

23/CCR 701), also known as the Wamsutter/Dad Road, and Carbon County Road 700 (CCR700).

Transportation effects of natural gas development and production would include increased traffic on federal and state highways and county roads providing access to the DFPA, including the above mentioned highways and roads. There would also be a statistical increase in the potential for accidents on these roads. Given the small increase in traffic associated with the development relative to existing traffic on these highways and roads, transportation impacts are not anticipated to be significant under any of the three alternatives considered in this EIS.

2.14 Health and Safety

Potential risks associated with the proposed action include the normal risks associated with traffic, construction activities, and drilling and production operations. In most instances, exposure to these hazards would be limited to the project-related workforce. Implementation of environmental protection and mitigation measures described in Chapters 2 and 4 would minimize the risk of exposure to these hazards. H_2S is not present within the DFPA, and therefore, is not a safety concern for this area.

The Proposed Action and alternatives would not result in any substantial, increased risks to public health and safety; nor would they introduce any unusual occupational hazards or threats to the health and safety of oil and gas field workers. A Hazardous Material Management Plan has been prepared by the Operators and is appended to the DEIS (Appendix D).

2.15 Noise

Noise associated with drilling, field development and production could potentially affect human comfort and safety (at extreme levels) and modify animal behavior. Noise levels in excess of the 55 dBA maximum standards can occur during construction and maintenance of well sites, access roads, ancillary facilities such as compressor sites and pipelines. However, perception of sound varies with intensity and pitch of the source, air density, humidity, wind direction, screening/focusing by topography or vegetation, and distance to the observer. Under typical conditions, excess levels decline below the level of significance (55 dBA) at 3,500 feet from the source. Drilling and field development-related noise impacts would be short-term, occurring on an intermittent basis at different locations throughout the DFPA throughout the estimated 20-year drilling and field development cycle. Substantially lower and less frequent noise disturbances would occur throughout the productive life of the field.

Construction-related impacts would be short-term, lasting as long as construction activities were ongoing at well sites, access roads, pipelines, and other ancillary facilities such as compressor sites. Noise would be created over a longer term at the individual well sites as a result of drilling activities.

Overall, noise produced by drilling and field development operations would be moderate because of the dispersed and short-term nature of these activities. Given the remoteness and isolation of the DFPA, drilling, field development and production operations would not affect noise sensitive locations for humans. Other users of the DFPA would be affected infrequently for periods of short duration as they move through the area. Affects on noise sensitive locations for animals would be avoided by implementation of the preconstruction planning and design measures described in Chapter 2 of the DEIS.

3.0 SCOPE OF ANALYSIS

The purpose of the scoping process, as stipulated (40 CFR, Parts 1500-1508), is to identify important issues, concerns, and potential impacts that require analysis in the EIS and to eliminate insignificant issues and alternatives from detailed analysis. Public participation, consultation, and coordination have occurred throughout the planning process for this EIS through *Federal Register* notices, press releases, scoping meetings, individual contacts, and informal consultation. Contact dates and actions taken by BLM are summarized in Chapter 6 - Consultation and Coordination of the DEIS. All information received during the scoping process is available for review at the Rawlins and Rock Springs Field Offices.

Also, during preparation of the DEIS, the BLM and consultant Interdisciplinary Team (IDT) have communicated with, and received input from various federal, state, county, and local agencies, elected representatives, environmental and citizen groups, industries, and individuals potentially concerned with issues regarding the proposed drilling action.

4.0 SUMMARY OF CUMULATIVE EFFECTS

The Proposed Action and alternatives have the potential to create cumulative impacts when combined with past, present and reasonably foreseeable future activities (RFFAs). The cumulative impact analysis (CIA) conducted for this EIS applies to the Proposed Action and Alternative A.

Chapter 5 of the DEIS identifies potential cumulative impacts for each of the resources assessed in this document.

The CIA assumes compliance with all applicable federal, state and local regulations and permit requirements, compliance with the Great Divide and Green River RMPs, and successful implementation of the mitigation measures identified in Chapters 2 and 4 of the DEIS.

Potential cumulative impacts are assessed at the resource level for four CIA areas: (1) within the Desolation Flats project area, (2) within the watersheds that contain the DFPA, (3) within southeastern Sweetwater County and southwestern Carbon County area, and (4) within the southwestern Wyoming and northeastern Colorado region.

Past and present activities and RFFAs within the DFPA include livestock grazing; dispersed recreation; and oil and gas exploration, development, production and product transportation. Total disturbance (after reclamation) within the DFPA would comprise an estimated 1.6 percent of total land area within the Project Area for the Proposed Action and 2.1 percent for Alternative A.

Past and present activities within the Barrel Springs Draw and Sand Creek drainage basins, the two basins that contain the DFPA, also include livestock grazing; dispersed recreation; and oil and gas exploration, development, production and product transportation. Utility, communication and transportation corridors also traverse these basins, and portions of the Creston/Blue Gap, Continental Divide/Greater Wamsutter II and South Baggs natural gas project areas are contained in the basins. Cumulative post-reclamation disturbance is projected to equal 0.89 percent of total land area within the two basins. Significant cumulative impacts are not anticipated for any resource within the Barrel Springs or Sand Creek basins.

Cumulative socioeconomic effects were assessed for Sweetwater and Carbon counties and the communities near the Project Area. The current potential for cumulative socioeconomic impacts in these counties is associated with the Proposed Action and alternatives coupled with ongoing and proposed natural gas drilling and field development (including coalbed methane development). Assuming that natural gas development levels will continue to be cyclic (i.e., periods of accelerated development followed by periods of moderate development levels), potential cumulative impacts on area socioeconomic conditions would include substantially positive effects on local economic conditions, increased employment opportunities, and increased federal, state and local tax revenues. Potential negative effects include increased demand on housing resources and community services in Wamsutter and Baggs from in-migrating employees and families associated with drilling and field development projects. The communities of Rock Springs and Rawlins could accommodate cumulative natural gas development at historic levels with existing housing and infrastructure, but Wamsutter and Baggs would need to add housing resources and some infrastructure to accommodate any increase in demand over current levels. Neither Wamsutter nor Baggs would receive significant tax revenues from natural gas development or production; these communities would need to obtain funding from other sources to finance infrastructure improvements required to accommodate growth.

Community attitudes toward cumulative natural gas development are likely to be positive for those community members who benefit directly or indirectly from the associated economic activity, but less positive or negative for those whose activities (grazing, hunting, dispersed recreation) or values (undisturbed landscapes and opportunities for solitude and isolation) would be affected by cumulative natural gas development.

Recent national and world events suggest the possibility that the future pace of development of natural gas resources in southwest Wyoming could exceed historic cyclic levels. Dramatic and sustained increases in natural gas demand and prices brought about by world events, changes in national energy policy or sustained high levels of economic growth could result in corresponding dramatic increases in the pace of development in Sweetwater and Carbon counties.

Given the number of wells authorized in the two counties, dramatic increases in the pace of development could result in socioeconomic impacts substantially larger than those identified above. It is conceivable that population increases associated with accelerated development could exceed housing resources and community facility and service capacity even in larger communities such as Rock Springs and Rawlins. In the case of such an extreme scenario, negative community impacts could be avoided or mitigated by the development and implementation of a coordinated industry/local government impact plan.

Cumulative impacts to recreation and visual resources would occur within southeastern Sweetwater County and southwestern Carbon County. Activities associated with the Proposed Action and alternatives would add to the substantial level of impact to visual and recreation resources already existing in the area. Although natural gas projects occur in different viewsheds, the composite experience for those traveling through the area, particularly on back roads, is one of a highly modified landscape. Contrasts in line, form, color and texture begin to dominate the viewer's experience. Views of large, relatively undisturbed patches of the characteristic Wyoming Red Desert landscape are becoming less common. These conditions would increase the likelihood that viewers, particularly back country recreationists, would be dissatisfied with the visual component of their recreation experience.

The substantial level of natural gas development and activity in the area also limits the ability of hunters and non-consumptive recreationists to adapt to changing patterns of wildlife use of the landscape, find more pristine environments, and relocate their activities in nearby areas. Disturbance in 23 square miles of the existing MVMA, an important area for recreationists seeking solitude and isolation, would substantially reduce relocation options. These conditions increase the probability that hunters and other recreationists would be displaced, dissatisfied, or have a less enjoyable recreation experience. It is important to note that development could occur in the privately held portions of this area regardless of the approval of the Proposed Action.

The cumulative impact analysis predicts that the maximum criteria pollutant concentrations will not exceed federal or state ambient air quality standards. In addition, cumulative criteria pollutant impacts are predicted to be less than the PSD Class I increments. Potential impacts to sensitive lake ANC are less than the applicable limits of acceptable change. Visibility impacts of up to 25 days exceeding the 0.5 delta-deciview (Δ dv) threshold and 7 days exceeding 1.0 Δ dv threshold are predicted as a result of cumulative emissions (0.5 Δ dv and 1.0 Δ dv. are the two criteria utilized for reporting visibility impacts). However, the presence or absence of the Desolation Flats Project (Alternative A) does not significantly alter the predicted cumulative visibility impacts. On only two of the 0.5 Δ dv impact days would the absence of Desolation Flats change the visibility impacts to levels below 0.5 Δ dv. None of the days with greater 1.0 dv would be changed to less than 1.0 dv with the absence of the Desolation Flats project. Of the two days that Desolation Flats would contribute to 0.5 dv impacts, one occurs at Dinosaur National Monument while the second occurs at Rawah Wilderness, both located in Colorado.

5.0 AGENCY-PREFERRED ALTERNATIVE

The Proposed Action is the BLM's Preferred Alternative for the Desolation Flats Natural Gas Development Project. The selection of the Proposed Action incorporates compliance with the Great Divide RMP, Green River RMP and implementation of various mitigation measures. Such measures include the following: (1) proponent-committed and BLM required project-wide measures for preconstruction planning and design and specific resources, (2) BLM Standard Mitigation Guidelines (DEIS - Appendix A), (3) Reclamation Plan (DEIS - Appendix C), (4) Hazardous Materials Management Plan (DEIS - Appendix D), (5) Wildlife Monitoring/Protection Plan (DEIS - Appendix H), and (5) additional mitigation measures recommended in Chapter 4 of the DEIS (Mitigation Summary of each resource element). The BLM has concluded that these detail a complete listing of practicable measures to reduce environmental harm resulting from the development and management in the DFPA. The BLM also feels that the analyses demonstrate that the Proposed Action would meet the requirements of Federal Regulation 43 CFR 3162(a), which directs the Operators to conduct "....all operations in a manner which ensures the proper handling, measurement, disposition, and site security of leasehold production; which protects other natural resources and environmental quality; which protects life and property; and which results in maximum ultimate economic recovery of oil and gas with minimum waste and with minimum adverse effect on ultimate recovery of other mineral resources." Disclosure of the Proposed Action as the Agency-Preferred Alternative does not imply that this will be the BLM's final decision. Additional information acquired during the FEIS public comment period, and public and BLM internal review comments, may result in the selection of an alternative in the ROD that combines components of the Proposed Action and the other alternatives to provide the best mix of operational requirements and mitigation measures needed to reduce environmental harm.

SECTION 2:

ADDENDUM AND ERRATA

SECTION 2: ADDENDUM AND ERRATA

2.1 INTRODUCTION

The following sections have been prepared in response to public and agency review comments on the DEIS. The Addendum Section is to provide changes in the analysis described in the DEIS. Since there were no additions to the analysis provided in the DEIS, there will not be an Addendum Section. The Errata Section, Section 2.2 describes changes to the DEIS in response to public comments.

2.2 ERRATA

EXECUTIVE SUMMARY

2.4 Water Resources

Page S-7, Delete sentence starting with "However," in the 1st paragraph.

TABLE OF CONTENTS

Page ii, change "2.5.2.11 Project-Wide Mitigation Measures" to "2.5.2.11 Standard Operating Procedures and Applicant-Committed Measures."

CHAPTER 1: PURPOSE AND NEED

1.4.1.3 Conformance with Great Divide RMP Direction

Page 1-12, replace the text starting at the top of page 1-12 through the beginning of Section 1.4.2 on page 1-14 with the following text:

For the RFO portion of Desolation Flats, a review of the WOGCC database on January 21, 2004 showed a total of 3,046 wells on state, federal and privately held surface in the RFO that are active (this includes dormant wells [44], completed wells [2,723], notices of intent to abandon [71], and spuds [208] within the RFO). The number of spuds are those wells where APDs are approved and notice has been received that drilling has been initiated, but there is no report yet of the wells being completed or plugged and abandoned. The total count of 3,046 wells goes back to the beginning of oil and gas production within the RFO in 1911. From the Great Divide RMP EIS (Assumptions for Analysis, Chapter 4, page 220) the number of wells existing at the time the RMP DEIS (USDI-BLM 1987) was 3,671 wells drilled in the planning area on all ownerships, and of these, 1,896 wells were dry and abandoned. That left 1,775 wells (3,671 minus 1,896) active prior to the RMP. Subtracting this figure from the 3,046 wells currently in the RFO according to the WOGCC (Table 1-4) leaves 1,271 active producing wells since the RMP EIS.

In Table 1-4, "plugged and abandoned" (P&A) wells are well pads that were drilled and at some point abandoned. To enter into P&A status, the wells must be plugged, abandoned, reclaimed and subsequently inspected and accepted as reclaimed by the BLM. Wells in the status of "notice of intent to abandon" (NOIA) fit into two categories, either plugged, abandoned, and awaiting reclamation or plugged, abandoned, reclaimed and awaiting acceptance by the BLM. For the purposes of this analysis, no NOIA wells are considered reclaimed.

Table 1-4 Well Status Summary – Rawlins Field Office (RFO) as of 01/21/04.

Well Description (number of wells within RFO)	Federal	Fee or State	Total
Plugged and Abandoned	1,337	1,599	2,936
Dormant	22	22	44*
Completed	1,317	1,406	2,723*
Monitoring	0	0	0
Notice of Intent to Abandon	24	47	71*
Number of Spuds	108	100	208*
Number of Expired Permits	620	375	995
Number of Permits to Drill	378	219	597
Waiting on Approval	0	0	0
Totals	3,812	3,768	7,580

* = Counts towards # wells

Analysis of 26 wells drilled under the Desolation Flats interim drilling program as of January, 2004 shows that long-term disturbance has averaged 6.3 acres/well. This includes well pads and roads. This is the most current figure available, and comes from actual experience from the DFPA. This figure contrasts with the simple average of 2.8 acres of long-term disturbance from the 4 natural gas projects listed in Table 1-5.

The coal bed natural gas disturbance figures were not used because they would skew the average figure above toward a smaller value. This is due in part to the smaller reclaimed well pad size for coal bed natural gas wells, and in this case, for the Brown Cow Pod, the fact that the wells would be developed on existing well pads and existing roads from an earlier project. For the purposes of this analysis, the 6.3 acre figure was increased to 6.5 acres/well long-term disturbance. This is a conservative estimate due to future wells within the DFPA benefiting from roads already established by the current wells and is consistent with the BLM's intent not to underestimate disturbance acreages.

To convert the current number of wells (1,271) to current acres disturbed long-term, the well number was multiplied by 6.5 acres disturbed per well. 1,271 wells x 6.5 acres per well = 8,262 acres of long term disturbance to date within the Rawlins Field Office under the Great Divide RMP.

Currently there are 8 oil and gas project development environmental analyses in the RFO where drilling and production activities are authorized but not yet completed. These wells and associated disturbances need to be considered before a determination of the number of wells remaining under the RFD scenario described in the RMP can be made. See Table 1-5 for a summary of the oil and gas development projects with wells authorized but not yet drilled outside of the Desolation Flats Project area.

Table 1-5 shows that approximately 956 wells and 2,505 acres of disturbance remain to be completed under existing authorizations for these projects. The well count for wells remaining to be drilled was taken from the WOGCC on-line database.

Table 1-5. Long Term Disturbance Figures for Existing Oil and Gas Development NEPA Documents.

	Wells* remaining to drill 12/31/2001	Wells* drilled since 01/01/02	Authorized Wells Remaining	***Average Disturbance per Well (Acres)	Authorized Disturbance Remaining (Acres)
Sierra Madre	16	0	16	1.95	31
Hay Reservoir	2	2	0	4.43	0
Continental Divide / Wamsutter II	1031	282	749	2.77	2,075
South Baggs	40	2	38	2.03	77
Creston/Blue Gap	207	66	141	2.23	314
Atlantic Rim (Brown Cow Pod)**	12	37	12	0.63	8
Totals	1,308	389	956	NM	2,505

*: dormant, completed, notice of intent to abandon, and wells spud combined

**: additional Pods have been approved since the DEIS analysis

***: estimate from environmental analysis document

The total disturbance then for existing and authorized (but not yet drilled) wells is 2,505 acres plus 8,262 acres = 10,767 acres of long-term disturbance either existing or authorized. Reasonably foreseeable development for oil and gas activity within the RFO administrative area as described in the Great Divide RMP (BLM 1988a) was projected to include 1440 new wells (16,092 acres of long term disturbance) over a 20-year period (1986-2005). As stated above, 10,767 acres of disturbance are either existing or authorized within the RFO. Long-term disturbance acreage available for future, as yet unauthorized, within the RFO area would be 5,325 acres (16,092 minus 10,767).

The well pad number proposed for each alternative are detailed below. Wells that are drilled but not successful would be short term disturbance that would be completely reclaimed following plugging and abandonment. Successful wells will have short term disturbance during construction and drilling, and long term disturbance over a smaller area during the operational phase of their life.

Table 1-6 Projected Well Pads by Alternative.

Alternative	# Wells Proposed	65 % Successful # Wells	Wells in RFO (13 in RSFO)
Proposed Action	385	250	237
Alternative A	592	385	373

Table 1-7 Summary of Long Term Disturbance Proposed for Desolation Flats Project Area by Alternative.

Alternative	Acres / Well	# wells* projected	Acres Disturbance Proposed	Existing and Authorized Disturbance within RFO	Total Long Term Disturbance
Proposed Action	6.5	237	1,541	10,767	12,308
Alternative A		373	2,425		13,192

*reflects projected 65% success rate, per Table 1-6 above

The DFPA natural gas development Proposed Action and Alternative A are in conformance with management objectives provided for in the ROD and Approved Great Divide RMP (USDI-BLM 1990a), subject to implementation of prescribed mitigation measures proposed by the Operators and BLM required mitigation in Chapter 2, and mitigation measures derived through analysis of impacts in Chapter 4, Environmental Consequences.

Page 1-20, rename "Table 1-6" to "Table 1-8." Add the following to this table after the "Water Quality Division" entry:

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY	
Air Quality Division	New Source Review (NSR) Permit: All pollution emission sources, including compressor engines and portable diesel and gas generators.

CHAPTER 2: PROPOSED ACTION AND ALTERNATIVES

2.0 Summary

Page 2-1, change the first sentence to read: "The DFPA currently contains 89 active producing wells, with accompanying production...." In the second sentence, change "63" to read "89."

2.5.2.11 Project-Wide Mitigation Measures

Page 2-32, rename "Project-Wide Mitigation Measures" to "Standard Operating Procedures and Applicant-Committed Measures."

CHAPTER 3: AFFECTED ENVIRONMENT

3.2 CLIMATE AND AIR QUALITY

Page 3-11, Replace entire Section 3.2 in DEIS with the following text:

3.2.1 Climate

The climatic conditions for the DFPA are classified as a semiarid mid-continental regime. The climate is typified by dry, windy conditions with limited precipitation and long cold winters. The nearest meteorological measurements were recorded at Baggs, Wyoming for the dates September 1979 through July 2000. The Baggs meteorological station is located approximately 14 miles east of the project area at an elevation of 6,239 feet. Due to the wide variation in elevation and topography within the project area, site specific climatic conditions may vary considerably from the conditions recorded at the Baggs station.

The recorded temperatures at the Baggs station are typically cool, with average daily temperatures ranging between 7°F and 34°F in midwinter and 45°F to 83°F during midsummer. Extreme temperatures have ranged from -50°F (January 14, 1984) to 100°F (August 18, 1984).

The annual average total precipitation is slightly greater than 11 inches. Over 68% of the average annual precipitation occurs between May and October. The annual average snowfall totals 40.5 inches, with December and January being the snowiest months at 9.6 and 8.4 inches respectively. Table 3-5 presents the average temperature range, average total precipitation and average total snowfall by month, while figures 3-2 through 3-4 show the average climatic conditions graphically.

The project area is subject to strong gusty winds, often accompanied by snow during the winter months, producing blizzard conditions and drifting snow. The nearest comprehensive wind data were collected at the Rawlins, Wyoming airport, approximately 60 miles from the project area. However, hourly wind data for the period December 1994 through November 1995 were collected near Baggs, Wyoming as part of the Mount Zirkel Wilderness Area Visibility Study. The close proximity of the Baggs station to the project area suggests that these data, rather than the more distant Rawlins data, best represents the wind conditions occurring within the project area. Figure 3-5 presents a wind rose generated from the Baggs data for the period December 1, 1994 through November 30, 1995. The wind rose depicts the relative directional frequency of the winds and the speed class. As indicated, the winds are predominately from the south to southwest approximately 37 percent of the time. The annual mean wind speed is 10.4 miles per hour (4.64 meters/second). Note that the meteorological data set used to generate the wind rose was processed with calm wind measurements set to a speed of one meter per hour. Therefore, the wind rose shows essentially no calms.

The direction and strength of the wind directly affects the dispersion and transport of pollutants emitted to the atmosphere. The strong winds typically present within the project area enhance the potential for the mixing and transport of the pollutants. Table 3-6 presents the wind speed frequency distribution while Table 3-7 summarizes the wind direction frequency.

The Proposed Action and alternatives are not expected to have any measurable adverse effect on the local or regional climate. Therefore, climate is not further discussed in this document.

Table 3-5. Mean Monthly Temperature Range, Total Precipitation and Snowfall.

Month	Average Temperature Range (°Fahrenheit)	Average Total Precipitation (inches)	Average Total Snowfall (inches)
January	5.1 - 32.9	0.49	8.4
February	8.6 - 36.6	0.45	5.7
March	19.9 - 47.3	0.44	5.2
April	27.4 - 58.3	0.88	2.5
May	34.2 - 67.7	1.64	0.2
June	41.2 - 79.0	0.98	0.0
July	47.6 - 85.6	1.46	0.0
August	46.1 - 83.7	0.97	0.0
September	37.7 - 74.2	1.15	0.0
October	26.8 - 61.0	1.46	2.0
November	16.6 - 43.5	0.71	6.9
December	6.5 - 33.8	0.55	9.6
Annual Average	26.5 - 58.6	11.19	40.5

Table 3-6. Wind Speed Frequency Distribution.

Wind Speed (miles per hour)	Percentage of Occurrence
0.0 to 4.0	6.6
4.0 to 7.5	33.2
7.5 to 12.1	29.6
12.1 to 19.0	21.8
19.0 to 24.7	5.8
Greater than 24.7	3.1

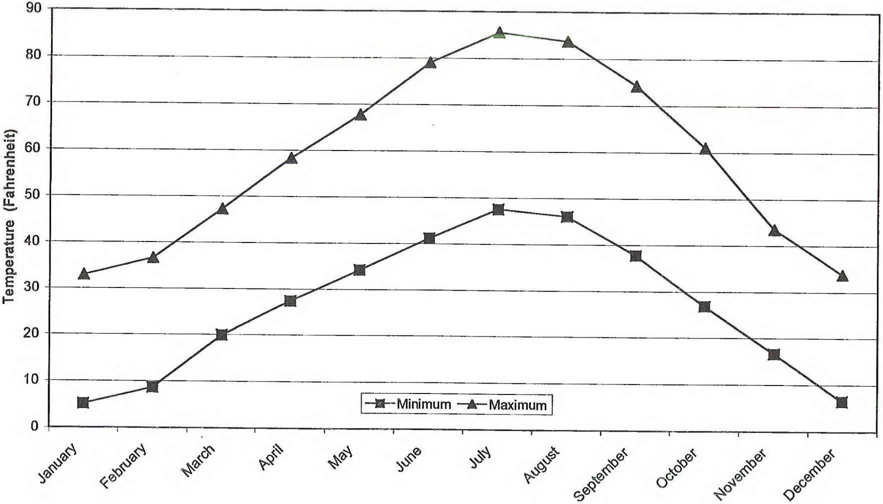


Figure 3-2 Monthly Average Temperatures at Baggs, Wyoming (1979 - 2000)

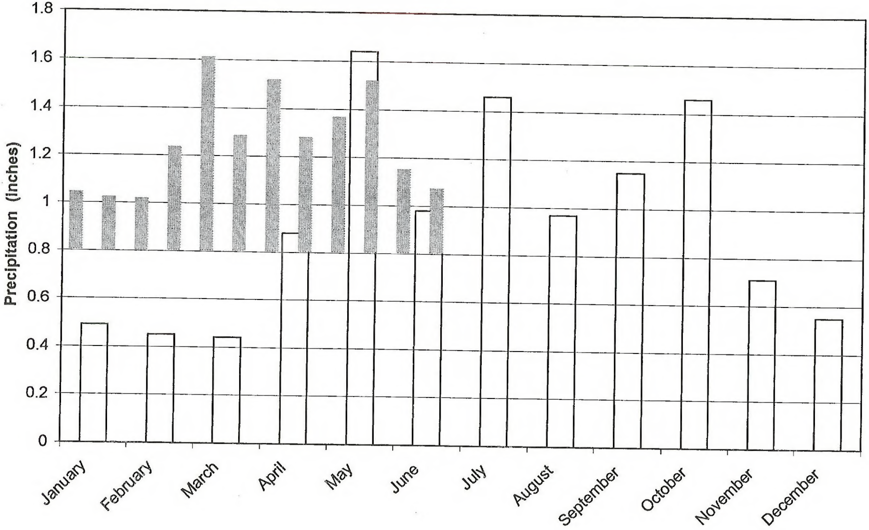


Figure 3-3 Monthly Average Precipitation at Baggs, Wyoming (1979 - 2000)

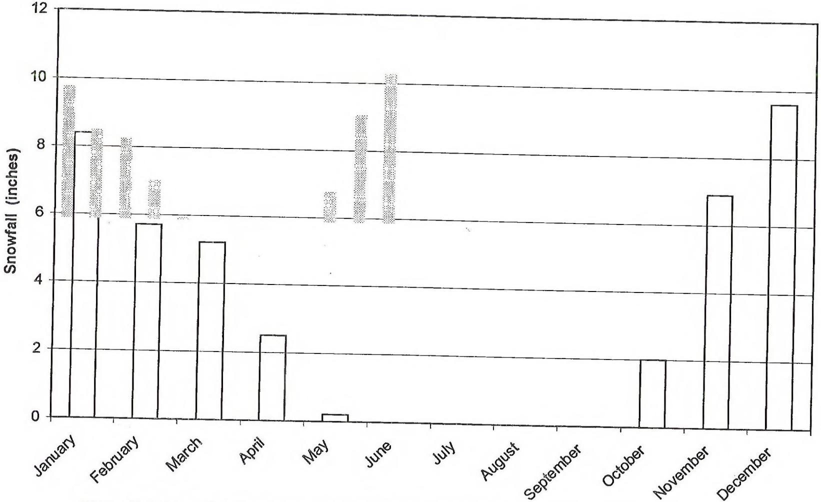
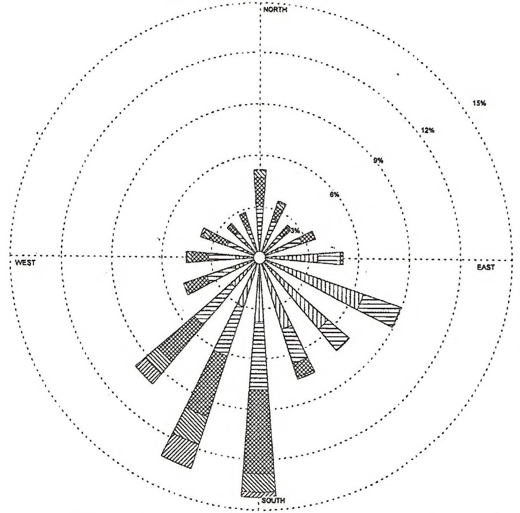


Figure 3-4 Mean Monthly Average Snowfall at Baggs, Wyoming (1979 - 2000)

Figure 3-5 Wind Rose for Baggs, Wyoming



Wind Speed (m/s) ▨ > 11.06 ▧ 8.49 - 11.06 ▩ 5.40 - 8.49 ▤ 3.34 - 5.40 ▥ 1.80 - 3.34 ▦ 0.51 - 1.80	LOCATION Baggs, Wyoming		PLOT YEAR-DATE-TIME For Dec. 1, 1994 - Nov. 30, 1995
	DISPLAY Wind Speed	UNIT m/s	COMMENTS Wind direction is the directon from which the wind is blowing. For example, the wind is blowing from the north 5.2% of the time.
	AVG. WIND SPEED 4.64 m/s	CALM WINDS 0.02%	
	ORIENTATION Direction (blowing from)		

WRPLOT View 3.5 by Lakes Environmental Software - www.lakes-environmental.com

Figure 3-5. Baggs, Wyoming Wind Rose for December 1, 1994 to November 30, 1995.

Table 3-7. Wind Direction Frequency.

Direction From Which Wind Is Blowing	Percentage of Occurrence
North	5.2
North Northeast	3.6
Northeast	2.6
East Northeast	3.6
East	5.0
East Southeast	9.0
Southeast	7.2
South Southeast	7.5
South	14.2
South Southwest	13.2
Southwest	10.0
West Southwest	4.9
West	4.5
West Northwest	3.9
Northwest	2.7
North Northwest	2.8

3.2.2 Air Quality

National and state ambient air quality standards set acceptable limits for criteria air pollutant concentrations. Although specific air quality monitoring has not been conducted within the project area, criteria pollutant background concentrations measured in the region are in attainment with the National, Wyoming and Colorado ambient air quality standards, indicating that the local air quality is good. Table 3-8 presents the measured background concentrations and the ambient air quality standards.

Incremental increases in the ambient concentration of criteria pollutants are regulated under the Prevention of Significant Deterioration (PSD) program. The project and the majority of the surrounding region are classified as PSD Class II. However, five PSD Class I areas identified as sensitive receptors were analyzed for this study: Bridger Wilderness, Fitzpatrick Wilderness, Savage Run Wilderness, Mount Zirkel Wilderness, and Rawah Wilderness. In addition, three PSD Class II sensitive receptor areas were analyzed: Wind River Roadless Area, Popo Agie Wilderness Area and Dinosaur National Monument. Several PSD Class I areas were not considered in the analysis due to their great distance from the project area. The excluded areas include Yellowstone, Grand Teton, and Rocky Mountain National Parks, Washakie Wilderness, Teton Wilderness and North Absaroka Wilderness. As shown in Table 3-8, the limitations on the incremental increases in pollutant concentrations are very restrictive for PSD Class I areas as compared to Class II areas. Figure 3-6 presents a map of the air quality study area and indicates the location of the DFPA and the identified sensitive PSD Class I and Class II areas.

It should be noted that any comparisons made to the PSD Class I and II increments for this analysis are intended to evaluate an "impact threshold" and do not represent a regulatory PSD increment consumption analysis. The determination of PSD increment consumption is a state air quality regulatory agency responsibility with oversight from the Environmental Protection Agency (EPA). A PSD increment consumption analysis is part of the major New Source Review process and may also be performed by a state regulatory agency or EPA in order to determine minor source increment consumption.

In addition to ambient air quality standards and PSD increments, Air Quality Related Values (AQRVs), which include the potential air pollution effects on visibility and the acidification of surface water bodies, is a concern for the sensitive PSD Class I and Class II receptors. Visibility is often referred to in terms of atmospheric light extinction or visual range, the furthest distance a person can see a landscape feature. Visibility also involves how well scenic landscapes can be seen and appreciated. When visibility is impaired by air pollution, people perceive a loss of color, contrast and detail.

Visibility impairment is frequently expressed in terms of deciview (dv). The deciview index was developed as a linear perceived visual change. A change in visibility of 1.0 dv represents a "just noticeable change" by the average person under most circumstances. Increasing deciview values represent proportionately larger perceived visibility impairments. The Forest Service (FS) has identified specific "Level of Acceptable Change" (LAC) values which they use to evaluate potential air quality impacts within their wilderness areas (USDA-FS 1993). For visibility impacts, the FS utilizes a LAC of 0.5 deciview, or "one-half of a just noticeable change."

Continuous visibility related background data collected as part of the Interagency Monitoring of PROtected Visual Environments (IMPROVE) program are available for two sensitive receptors within the study area: Bridger Wilderness and Mt. Zirkel. The Bridger data best represent existing conditions at the Bridger, Fitzpatrick, and Popo Agie wilderness areas and the Wind River Roadless Area, while the Mt. Zirkel data best represent existing conditions for Dinosaur National Monument and the Mt. Zirkel, Savage Run, and Rawah wilderness areas.

Five year rolling averages of the 20% cleanest, 20% haziest and the mid-range 40% to 60% visibility conditions (reconstructed from aerosol measurements) as monitored at Bridger Wilderness and Mount Zirkel Wilderness (IMPROVE 2003) are presented in Figures 3-7 and 3-8. As shown, monitored visibility conditions at Bridger and Mount Zirkel Wilderness Areas have been stable, neither improving nor degrading over the monitoring period.

Table 3-9 summarizes the seasonal 20% best visibility conditions as reconstructed from aerosol measurements recorded at Bridger and Mount Zirkel Wilderness areas. The standard visual ranges for the two areas are charted in figure 3.9. As shown, visibility conditions for the areas are very good, with the best conditions (greatest SVR) occurring at Bridger Wilderness. The best visibility conditions typically occur during the fall and winter months when aerosol concentrations are at a minimum.

For assessing visual impacts, background conditions consistent with the 1995 emission inventory date were utilized. Details concerning these data are presented in the Near- and Far-Field Ambient Air Quality Technical Report (BLM 2004).

Table 3-8. Background Concentrations and Ambient Air Quality Standards ($\mu g/m^3$).

Pollutant and Averaging Time	Measured Background Concentration	Wyoming Ambient Air Quality Standards	Colorado Ambient Air Quality Standards	National Ambient Air Quality Standards	PSD Class I Increment	PSD Class II Increment
Carbon Monoxide (CO)						
CO 1-hr	2,299[a]	40,000	40,000	40,000	None	None
CO 8-hr	1,148[a]	10,000	10,000	10,000	None	None
Nitrogen Dioxide (NO_2)						
NO_2 Annual	3.4[b]	100	100	100	2.5	25
Ozone (O_3)						
O_3 1-hr	169[c]	235	235	235	None	None
O_3 8-hr *	147[c]	157	157	157	None	None
Particulate Matter less than 10 microns (PM_{10})						
PM_{10} 24-hr	47[d]	150	150	150	8	30
PM_{10} Annual	16[d]	50	50	50	4	17
Particulate Matter less than 2.5 microns ($PM_{2.5}$)						
$PM_{2.5}$ 24-hr *	15[d]	None	None	65	None	None
$PM_{2.5}$ Annual*	5[d]	None	None	15	None	None
Sulfur Dioxide (SO_2)						
SO_2 3-hr	29[e]	1,300	700	1,300	25	512
SO_2 24-hr	18[e]	260	365	365	5	91
SO_2 Annual	5[e]	60	80	80	2	20

Note: * Effective February 27, 2001 the U.S. Supreme Court upheld the EPA's position on the proposed national 8-hr ozone and PM2.5 standards. The WDEQ-AQD will not enforce these standards until EPA issues an implementation rule. Therefore no demonstration of compliance with these standards is required at this time.

Sources:

a. CDPHE, 1996 - Data collected at Rifle and Mack, Colorado in conjunction with proposed oil shale development during early 1980s.

b. ARS, 2002 - Data collected at Green River Basin Visibility Study site, Green River, WY during the period January - December 2001.

c. WDEQ-AQD - Data collected at Green River Basin Visibility Study site, Green River, Wyoming during the period June 10, 1998 through December 31, 2001.

d. WDEQ-AQD, 2002 - Data collected by WDEQ at Emerson Building, Cheyenne, WY, Year 2002.

e. CDPHE-APCD, 1996 - Data collected at the Craig Power Plant site and at Colorado Oil Shale areas from 1980 to 1984.

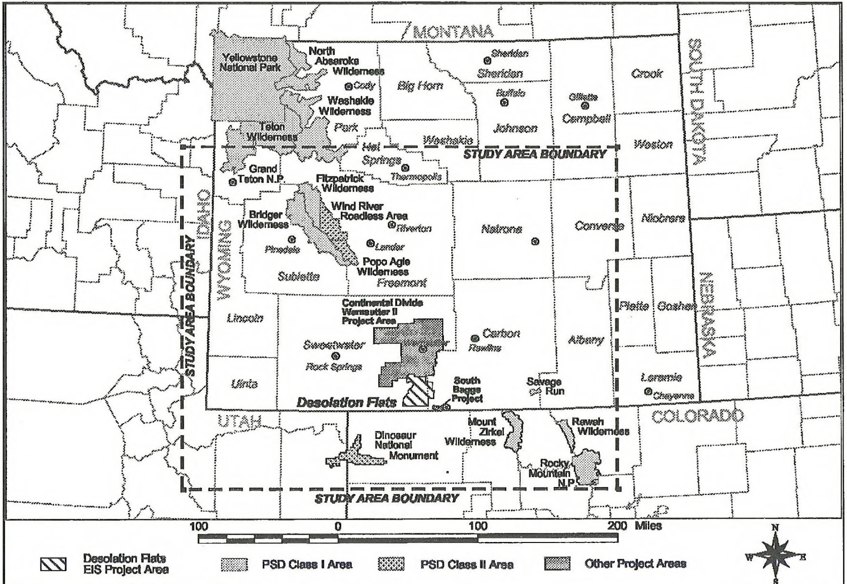


Figure 3-6. Air Quality Assessment Area

Table 3-9. Bridger Wilderness and Mount Zirkel Wilderness 20% Best Visibility Conditions.

Wilderness Area	Month	Standard Visual Range (kilometers)	Deciview (Unitless)
Bridger Wilderness	January	284	3.2
	February	287	3.1
	March	287	3.1
	April	224	5.6
	May	224	5.6
	June	231	5.3
	July	211	6.1
	August	211	6.1
	September	205	6.5
	October	282	3.3
	November	273	3.6
	December	275	3.5
Mount Zirkel Wilderness	January	254	4.3
	February	254	4.3
	March	254	4.1
	April	21[illegible]	6.1
	May	210	6.2
	June	217	5.9
	July	254	6.5
	August	199	6.7
	September	197	6.9
	October	278	3.4
	November	274	3.6
	December	274	3.6

Note: Standard Visual Range and Deciview values were reconstructed utilizing quarterly aerosol concentrations representative of the 20% best visibility conditions in conjunction with monthly f(Rh) values as published in appendix A-2 of Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule. Aerosol concentrations provided by Scot Copeland, USFS, October 2003. Bridger Wilderness aerosol concentrations based upon monitored conditions for the period 1988 through 2002. Mount Zirkel concentrations based upon monitored conditions for the period 1995 through 2002.

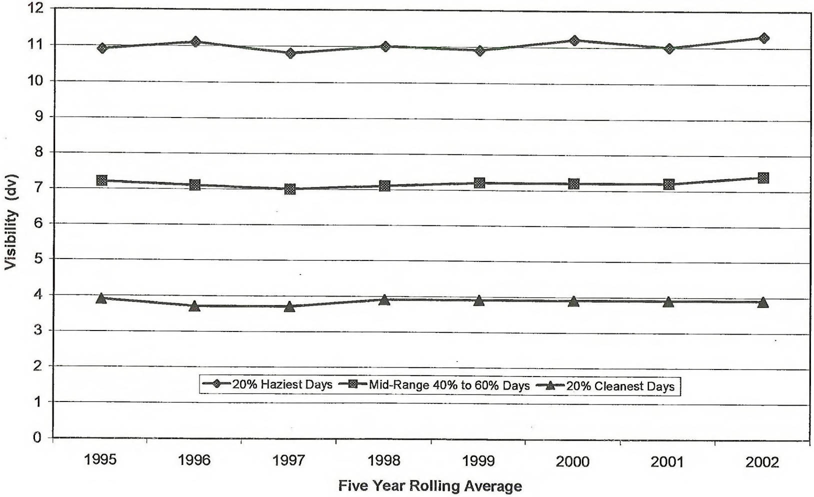


Figure 3-7. 5 Year Average Visibility Conditions At Bridger Wilderness.

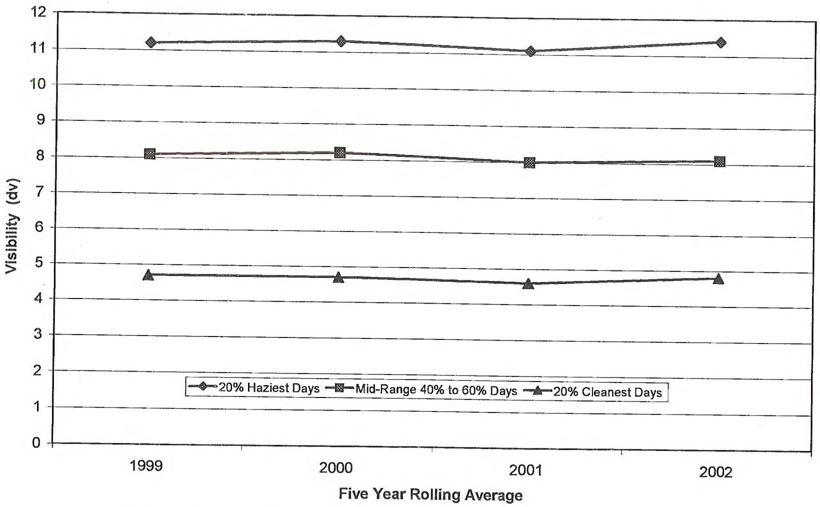


Figure 3-8. 5 Year Average Visibility Conditions At Mount Zirkel Wilderness.

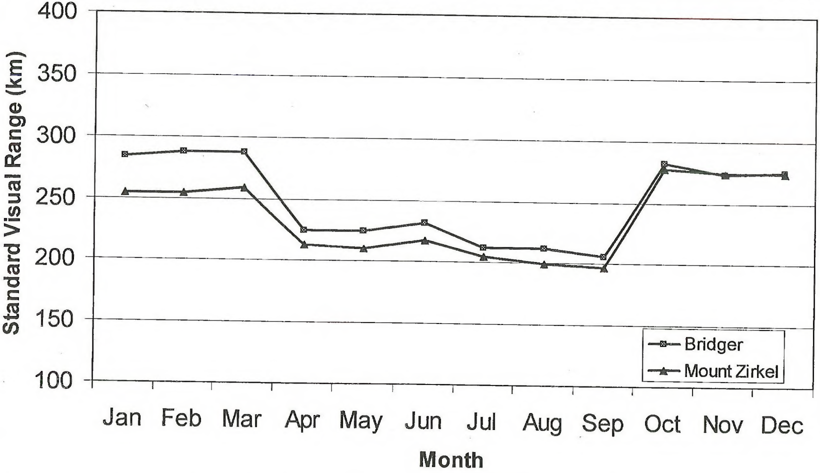


Figure 3-9. Seasonal Reconstructed 20% Best Visibility Conditions (with Rayleigh Scattering)

Atmospheric deposition and the acidification of surface water bodies is a concern for sensitive lakes located within wilderness areas. Atmospheric deposition is monitored as part of the National Acid Deposition Program / National Trends Network near Pinedale, Wyoming. Although the monitored deposition values are well below those considered to damage vegetation (USDI-BLM 1996b), even low levels of atmospheric deposition may exceed the acid neutralizing capacity (ANC) of sensitive high mountain lakes (USDI-BLM 1996b). Background ANC levels for monitored mountain lakes within the study area are provided in Table 3-10.

To evaluate potential atmospheric deposition impacts, the FS utilizes an LAC of no greater than 1 microequivalent/liter (µeq/l) change in ANC for sensitive water bodies with existing ANC levels less than 25 µeq/l. A 10 percent change in ANC is considered significant for lakes with existing ANC levels over 25 µeq/l.

Table 3-10. Background Acid Neutralizing Capacity (ANC) for Monitored Lakes.

Wilderness Area	Water Body	Background ANC (µeq/l)
Bridger	Black Joe Lake	69.0 [a]
	Deep Lake	61.0 [a]
	Hobbs Lake	68.0 [a]
	Upper Frozen Lake	5.7 [b]
Fitzpatrick	Ross Lake	61.4 [a]
Popo Agie	Lower Saddlebag Lake	55.5 [a]
Mount Zirkel	Pothole A-8	16.0 [d]
	Seven Lakes	35.5 [d]
	Upper Slide Lake	24.7 [d]
Medicine Bow	West Glacier	26.1 [c]
Rawah	Island Lake	64.6 [a]
	Rawah #4 Lake	41.2 [a]

Note: The basis for ANC data is the 10th percentile of measurements at the lake outlet when greater than 5 years of data exist. When 5 or less years of data are available, average values are used.

Sources:
a. D. Haddow, USDA-FS, 2001.
a. T. Svalberg, USDA-FS, 2000.
b. R. Musselman, USDA-FS, 2001.
c. A. Mast, USGS, 2001.

3.5.1 General Vegetation

Page 3-49, first paragraph, third line. Change "22 species" to "24 species."

Page 3-49. Replace Table 3-17 with the following Table 3-17.

Table 3-17. Designated Noxious Weeds and Prohibited Noxious Weeds (Wyoming Weed & Pest Control Act).

Scientific Name	Common Name
Agropyron repens	Quackgrass
Arctium minus	Common burdock
Cardaria draba, C. pubescens	Hoary cress, whitetop
Carduus acanthoides	Plumeless thistle
Carduus nutant	Musk thistle
Centaurea diffusa	Diffuse knapweed
Centaurea maculosa	Spotted knapweed
Centaurea repens	Russian knapweed
Chrysanthemum leucanthemum	Ox-eye daisy
Cirsium arvense	Canada thistle
Convolvulus arvensis	Field bindweed
Cynoglossum officinale	Houndstongue
Euphorbia esula	Leafy spurge
Franseria discolor	Skeletonleaf bursage
Hypericum perforatum	Common St. Johnswort
Isatis tinctoria	Dyers woad
Lepidium latifolium	Perennial pepperweed
Linaria dalmatica	Dalmatian toadflax
Linaria vulgaris	Yellow toadflax
Lythrum salicaria	Purple loosestrife
Onopordum acanthium	Scotch thistle
Sonchus arvensis	Perennial sowthistle
Tamarisk spp.	Salt cedar
Tanacetum vulgare	Common Tansy

Page 3-49, add the following text after Table 3-17:

A component of Wyoming's semiarid rangelands, especially in the Wyoming big sagebrush cover type, are the biological soil crusts that occupy most of the open space not occupied by vascular plants. Biological soil crusts predominantly are composed of cyanobacteria (formerly blue-green algae), green and brown algae, mosses, and lichens. Liverworts, fungi, and bacteria can also be important components. Because they are concentrated in the top 1-4 mm of soil, they primarily affect processes that occur at the soil surface or soil-air interface, including soil stability, decreased erosion potential, atmospheric N-fixation, nutrient contributions to plants, soil-plant-water relations, infiltration, seeding germination, and plant growth. Crusts are well adapted to severe growing conditions, but poorly adapted to compressional disturbances such as trampling by humans and livestock, wild horses, wildlife, or vehicles driving off roads. Disruption of the crusts decreases organism diversity, soil nutrients, stability, and organic matter (Belnap *et al.* 2001).

3.5.2 Waters of the United States, Including Wetlands

Page 3-50, Delete the 4th paragraph on page 3-50 starting with "Wyoming General ..."/

3.8.1 Threatened, Endangered or Proposed for Listing Species of Plants, Wildlife, and Fish

Page 3-65, Table 3-21, delete the Mountain Plover entry from the table.

3.8.1.1 Wildlife Species

Page 3-67/68, move the text regarding the Mountain Plover into section 3.8.2 at the end of the **Birds** discussion on page 3-71.

3.8.2 Sensitive Plant, Wildlife, and Fish Species

Page 3-73, Table 3-22, add the following entry into the table under "Birds":

Mountain Plover	Charadrius montanus	G2/S2B, SZN	Present

3.9 Recreation

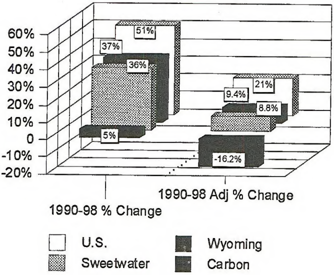
Page 3-75, first paragraph, change both "small" (fourth sentence) and "limited" (fifth sentence) to "moderate."

3.12.2.3 Earnings (replace entire section, page 3-89 and 3-90)

Sweetwater County earnings by place of work increased from $633 million in 1990 to $858 million in 1998, a 36 percent increase over the 8 year period (WDAI 2000b). Carbon County earnings increased from $202 million to $211 million during this period, a 5 percent increase. These increases compare to a 37 percent increase in earnings for the State of Wyoming during this period, and a 51 percent increase for the United States as a whole (Figure 3-17). However, when adjusted for inflation, Sweetwater County earnings increased by 8.7 percent from 1990 to 1998, and Carbon County earnings decreased by16.2 percent from their 1990 level. These inflation-adjusted earnings compare to increases of 9.4 percent for the State of Wyoming and 21 percent for the U.S. during this period.

Oil and gas earnings increased 81 percent in Sweetwater County between 1990 and 1998, from $63.7 million to $115 million. When adjusted for inflation, Sweetwater County oil and gas earnings increased 45 percent. Recent Carbon County oil and gas earnings are not disclosed because of the small number of companies in the industry.

Figure 3-21. Change in Total Earnings 1990 - 1998: Carbon County, Sweetwater County, Wyoming and the U.S. (Current and Inflation Adjusted Dollars)



CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

4.2 AIR QUALITY

Page 4-7, Replace entire Section 4.2 in DEIS with the following text:

4.2.1 Introduction

4.2.1.1 Scoping Issues

In recent years, the development of mineral resources throughout Wyoming has heightened the public's awareness of air quality. A number of public comments concerning air quality issues were received during the scoping process and are summarized below.

1. Operators should obtain permits and apply Best Available Control Technology (BACT) to all sources of volatile organic compounds (VOC) and hazardous air pollutants (HAP), including sources with emissions below the control thresholds currently set by Wyoming Department of Environmental Quality - Air Quality Division (WDEQ-AQD) policy.

2. Additional air quality monitoring stations should be installed near major sources within the project area to ensure compliance with state and National Ambient Air Quality Standards (NAAQS). This monitoring should include both criteria and hazardous air pollutants.

3. Concerns that prescribed burns may affect air quality monitoring results should be addressed.

4. The public and operator employees should be informed of the risks associated with potential exposure to HAP.

5. Concerns with potential cumulative impacts of atmospheric pollution on Class I wilderness areas should be addressed.

6. Options for off-site mitigation to improve overall air quality in southwest Wyoming should be investigated.

7. The Desolation Flats air quality impact analysis should be tiered off of the previous Continental Divide/Wamsutter II, South Baggs and Pinedale Anticline analyses.

4.2.1.2 Assessment Protocol

An Air Quality Assessment Protocol was developed which proposed the methodologies for quantifying potential air quality impacts from the proposed project and surrounding developments. The criteria for evaluating the significance of the potential air quality impacts were also addressed in the protocol. The protocol was prepared with input from the BLM, State of Wyoming, US Forest Service, and United States EPA Region VIII in conjunction with the project proponents, thereby ensuring that the assessment methodology was technically sound.

In determining the protocol for this assessment, the consensus was to perform a single impact analysis for Alternative A. As proposed, Alternative A provides for an increased well density and production capacity beyond that described in the Proposed Action. Under Alternative A, 592 gas wells would be developed at 555 locations, with a forecasted success rate of 65 percent resulting in 385 producing wells. The producing wells would be supported with six compressor stations and two gas processing plants. Compression and processing requirements for Alternative A are estimated at 32,000 horsepower. The analysis of Alternative A represents an estimate of the maximum impacts that may occur. Potential air quality impacts resulting from the implementation of the Proposed Action and the No Action alternatives would be less than the impacts that may result from the implementation of Alternative A.

4.2.2 Impact Significance Criteria

In order to evaluate potential air quality impacts, a scale of measurement or significance criteria must be defined. For this analysis, potential impacts to air quality are considered to be significant if project related emissions cause:

- A violation of Wyoming (WAAQS), Colorado (CAAQS) or national ambient air quality standards (NAAQS); or

- An Exceedance of the PSD increments for Class I or Class II areas; or

- Toxic pollutant concentrations that exceed the acute (1-hour) Reference Exposure Levels (REL) or chronic (annual) Reference Concentrations (RfC); or

- A lifetime incremental increase in cancer risk of one additional incident per million exposures; or

- Visibility impacts to sensitive areas above the 1.0 Δ dv (change in deciview) threshold; or
- Changes in sensitive lake ANC greater than the designated LAC. For sensitive water bodies with existing ANC levels less than 25 μeq/l, the LAC is no greater than 1 μeq/l. A 10 percent change in ANC is considered significant for lakes with existing ANC levels greater than 25 μeq/l.

4.2.3 Direct and Indirect Impacts

Three primary levels of modeling (sub-grid, near-field, and far-field) were used to characterize air quality impacts. Sub-grid modeling was conducted to predict impacts in the immediate vicinity of individual sources (i.e., individual wells and compressor stations) for comparison to state and federal ambient air quality standards and PSD Class II increments. Sub-grid modeling was also utilized to predict hazardous air pollutant concentrations and incremental cancer risks resulting from project related sources. Near-field modeling was conducted to predict impacts within the Desolation Flats project area and 30 miles (50 kilometers) beyond its boundaries. The results of the near-field modeling were compared to state and federal air quality standards and PSD Class II increments. Far-field modeling was used to predict impacts to ambient air quality, PSD Class I increments and Air Quality Related Values (visibility and atmospheric deposition) at eight sensitive areas. Table 4-3 lists the analyzed sensitive areas, the agency responsible for their management, and the average distance from the project area. It should be noted that all comparisons with PSD increments are intended only to evaluate a level of concern and do not represent a regulatory PSD increment consumption analysis. PSD increment consumption analyses are applied to large industrial sources and are solely the responsibility of the State and the Environmental Protection Agency.

Sub-grid modeling was performed using the Industrial Source Complex (ISCST3) model to assess impacts of individual wells and multiple wells in combination with compression stations at distances of up to 4 kilometers (km) from the source. ISC is a Gaussian model that assumes instantaneous straight line transport of pollutants from the source to the receptor. In general, 100 meter grid spacing was used for the sub-grid modeling.

Near-field modeling was performed using the CALPUFF set of models (CALMET, CALPUFF, and CALPOST). The CALPUFF models are Lagrangian puff models that allow for wind meander and long range transport of pollutants. The Near-field modeling was performed for distances out to 50 km from the project area boundary. A 4 km grid spacing was used for the near field modeling.

Far-field modeling was also performed with the CALPUFF set of models for the entire modeling domain of 400 km (north-south) by 500 km (east-west). A four km receptor grid spacing was used throughout the modeling domain (12,500 receptors) supplemented with an additional 401 receptors located at the boundaries and within the eight sensitive areas and an additional twelve receptors located at the sensitive lakes evaluated for atmospheric deposition. Figure 4-1 presents the near- and far-field domains along with the sensitive receptor areas.

Meteorological data used in the ISC model were collected at the South Baggs station in 1995. For CALPUFF, the meteorological input utilized a 1995 meso-scale MM5 simulation as the initial wind field. The MM5 wind field was refined utilizing terrain and land use data along with surface and upper air meteorological data collected at National Weather Service sites in 1995 throughout the region.

In addition to the sub-grid, near-field and far-field analyses, a fourth modeling methodology was used to assess the impacts of vehicles traveling on unpaved support roads. The CALINE4 model was used with hypothetical screening meteorology coupled with traffic volumes determined as part of the emissions estimates.

Table 4-2. Analyzed Sensitive Areas

Sensitive Area	Managing Agency	Average Distance From Project Area (miles/km)	Direction From Project Area
Bridger Wilderness (Class I)	US Forest Service	140 / 225	NW
Fitzpatrick Wilderness (Class1)	US Forest Service	155 / 250	NW
Popo Agie Wilderness (Class II)	US Forest Service	115 / 185	NW
Wind River Roadless Area (Class II)	US Forest Service	135 / 220	NW
Dinosaur National Monument (Class II)	National Park Service	65 / 105	SW
Savage Run Wilderness (Class I)	US Forest Service	85 / 140	E
Mount Zirkel Wilderness (Class I)	US Forest Service	75 / 120	ESE
Rawah Wilderness (Class I)	US Forest Service	110 / 180	ESE

A fifth modeling methodology was used to assess the potential contribution of VOC emissions to regional ozone concentrations. A simplified Reactive Plume Model (RPM II) screening methodology developed by the EPA (Scheffe 1988) was utilized for the analysis. The Scheffe methodology uses the ratio of VOC to NO_X emissions and the magnitude of the VOC emissions to evaluate potential ozone contribution of point sources. The methodology is a commonly used screening method and is considered very conservative.

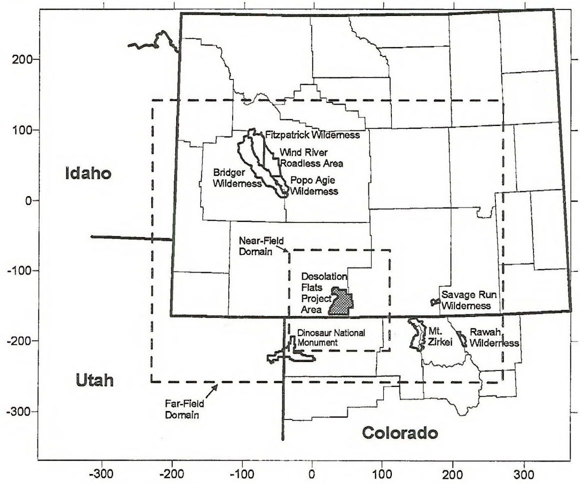
4.2.3.1 Alternative A

4.2.3.1.1 Emission Inventory for Alternative A Project Related Sources

An air emission inventory was developed for all sources proposed under Alternative A. The inventory estimated emissions for five criteria pollutants; oxides of nitrogen (NO_X), SO_2, CO, particulate matter less than 10 microns (PM_{10}), and VOC. The inventory also estimated HAP emissions for six compounds including benzene, toluene, ethylbenzene, and total xylenes (collectively called BTEX), normal-hexane (n-hexane), and formaldehyde.

Project related activities evaluated in the emission inventory included:

- construction emissions, including well pad and resource road construction;
- well drilling, completion and testing;
- wind erosion of disturbed areas;
- well production emissions, and
- gas compression and processing.



Lambert Conformal Projection
Map Origin = 42.55 N, 108.55 W
Std. Parallels: 30 N, 60 N

Figure 4-1. Modeling Domains and Sensitive Receptor Areas.

Specific details of the emission inventory are documented in the Air Quality Technical Report. A summary of the emission inventory follows.

Well Development Emissions

Air emissions result from three sequential well development activities: well pad and resource road construction, well drilling, and well completion. Emissions for both regulated pollutants and HAP were estimated for each activity as applicable.

Well pad and resource road construction consists of the clearing, grading, and construction of the road and well pad. The emissions sources associated with these activities include fugitive dust emissions from travel on unpaved roads, heavy construction operations, and tailpipe emissions from mobile sources used in the construction process. It was assumed that controls for these sources would include watering on the well pad and service roads during well pad and resource road construction to control emissions of particulate matter. The watering control efficiency was assumed to be 50 percent.

Well drilling consists of rigging-up, drilling, and rigging-down. The emissions sources associated with well drilling include fugitive dust emissions from travel on unpaved roads and tailpipe emissions from mobile sources such as heavy duty diesel engine powered trucks and drill rigs used in the drilling process. Particulate matter is assumed to be controlled by watering the unpaved roads, with a control efficiency of 50 percent.

Well completion includes the perforation and stimulation of the producing formations and flow testing. The emission sources associated with well completion include fugitive dust emissions from travel on unpaved roads, tailpipe emissions from mobile sources and flaring of natural gas for well evaluation. Particulate matter is assumed to be controlled by watering the unpaved roads, with a control efficiency of 50 percent.

The water application rate necessary to achieve the assumed 50% fugitive dust control efficiency was estimated. As calculated in accordance with a published EPA methodology (EPA 1988), a daily application rate of 0.02 gallons of water per square yard, or 366 gallons per mile of road, should provide a fugitive dust control efficiency of 50% for this project. Climatic data indicate that natural precipitation would provide adequate water to achieve a 50% control efficiency between 40 to 90 days per year.

Both short-term maximum (hourly) and long-term (annual) emissions were estimated for construction operations. For the calculation of short-term emissions, the consecutive nature of these activities was taken into account. During a one-hour period at any given well, only one of the three development activities; road construction, drilling, or completion, would be taking place. Therefore, short-term emissions were calculated as the single maximum hourly emission rate from each of the three development activities. Long-term well development emissions were estimated on an annual basis assuming a development rate of 45 wells per year. Typically, each constructed well would undergo all three development activities; construction, drilling, and completion, over the course of a year. Therefore, long-term emissions were calculated as the sum of the emissions from the three development activities.

Well Production Emissions

Emissions to the atmosphere result primarily from three aspects of gas production: three-phase separation, triethylene glycol (TEG) dehydration, and condensate storage. The emissions of both criteria pollutants and HAP were estimated for each process as applicable.

At each well, a natural gas-fired three-phase separator heater, rated at 750,000 BTU per hour, will operate an average of 15 minutes per hour throughout the year. In addition, a glycol regeneration heater, rated at 250,000 BTU per hour, is assumed to operate 15 minutes per hour on average throughout the year. To account for seasonal variation in heater operations, the emissions were weighted for the impact analysis. During the winter months of November through April, the heater emissions were weighted at 172% of the average rate, while the remaining summer months were weighted at 28% of the average emission rate.

VOC and HAP emissions from the glycol dehydration system were estimated using Gas Research Institute's (GRI's) GlyCalc emissions estimation program. Dehydrator still vent emissions are dependent upon the produced gas composition and throughput. For this study, predicted emissions from a typical well were calculated assuming an average production rate of

1.0 MMscf/day. The inlet gas composition was estimated by averaging the gas analyses from three existing wells in the study area. HAP concentrations were conservatively estimated at the maximum concentration observed in the three existing wells. Dehydrator emissions were calculated on an individual well and a total project basis. It was assumed that no controls will be required for dehydrator still vent emissions.

Flashing emissions occur as a result of pressure differentials between the separator and the storage tank. For this study, the flashing of VOC and HAP from a condensate storage tank were estimated utilizing a HYSYM process simulation conducted for a well located near the study area. Individual well flashing emissions were based upon an average condensate production rate of two barrels per day. Since the average rate of condensate production is relatively low, it was assumed that no controls would be required for flashing emissions.

Storage tank working and breathing losses occur as a result of the filling and emptying of the storage tanks and the daily heating and cooling of the condensate which results in thermal expansion. An emission estimation program, Tanks 4.0, was utilized to calculate the storage tank emissions. For this analysis, the condensate was assumed to have an average Reid vapor pressure of 8.0. Again, an average condensate production rate of two barrels per day was assumed.

Wind Erosion Emissions

Wind erosion emissions were calculated for disturbed areas, such as the well pad and access roads. The wind erosion estimates were calculated based upon meteorological data measured near Baggs, Wyoming in 1995.

Compression Emissions

The emissions resulting from compression operations were calculated for a total of 32,000 horsepower, based upon estimated project requirements of 30,000 horsepower for gas transportation and 2,000 horsepower for gas plant processing. The type and size of the proposed compressor engines has not been determined, therefore a mixture of engine types; two-stroke and four-stroke, rich-burn and lean-burn, was assumed for the analysis. The capacity of the individual compressor units is expected to range from several hundred horsepower to greater than 1,000 horsepower. Application of state-regulated BACT was considered in estimating compression emissions. Current control technology can reduce NO_X emissions to between 0.7 and 1.5 grams per horsepower-hour (g/hp-hr). NO_X emissions were quantified at the most typical rate of 1.0 g/hp-hr, while CO and VOC emissions were quantified at 3.0 g/hp-hr and 0.5 g/hp-hr respectively. Hazardous air pollutant emission rates were estimated based on AP-42 emission factors.

Total estimated emissions for Alternative A are summarized in Table 4-3. The estimate assumes 45 wells are constructed each year and 385 wells produce a combined 385 MMscf/day of natural gas and 770 bbls/day of condensate.

4.2.3.1.2 Alternative A Sub-grid Impact Analysis

Single Well Sub-grid Analysis

Each phase in the development of a single well; construction, drilling, completion and production, was analyzed individually. Emissions from the well pad and the associated lease road were included in the analysis. The orientation of the lease road was rotated with respect to the prevailing winds in ten degree increments to determine the greatest impact for all potential site configurations. Table 4-4 presents the potential ambient air quality impacts for each development phase of an individual well. The maximum impact for each individual phase of operation was added to the monitored background concentrations and compared to the applicable ambient air quality standards. As presented in Table 4-5 and Figure 4-2, potential impacts for a single well would not cause an exceedance of the state or federal ambient air quality standards. The predicted well development impacts are also below the Class II PSD increments as shown in Table 4-6.

Table 4-3. Annual Project Emissions

Air Pollutant	Project Emissions (tons/year)			
	Well Construction and Development[1]	Well Production[2,3]	Gas Compression and Processing[4]	Total Project Emissions
NO_X	721.3	41.5	309.0	1,072
CO	198.7	10.9	927.0	1,137
VOC	26.2	14,755	154.5	14,936
SO_2	12.2	-	-	12.2
PM_{10}	236.2	51.4	6.8	294
Benzene	-	360.3	0.6	361
Toluene	-	902.7	0.2	903
Ethylbenzene	-	474.5	-	475
Xylenes	-	624.8	0.1	625
n-Hexane	0.1	31.6	-	31.7
Formaldehyde	0.1	0.03	46.3	46.4

[1] Assumes 45 wells are constructed and developed per year

[2] Assumes 385 gas wells are producing 385 MMscf/day and 770 bbls/day of condensate

[3] Well production emissions include wind erosion

[4] Assumes total compression and processing requires 32,000 hp

Table 4-4. Ambient Air Quality Impacts Adjacent to a Single Well

Pollutant	Averaging Period	Construction Impact ($\mu g/m^3$)	Drilling Impact ($\mu g/m^3$)	Completion Impact ($\mu g/m^3$)	Production Impact ($\mu g/m^3$)	Maximum Impact ($\mu g/m^3$)
NO_2	Annual	0.0026 (400 meters from well pad)	1.92 (500 meters from drill rig)	0.014 (500 meters from flare)	0.02 (500 meters from production heater)	1.92 (500 meters from rig)

CO	1-hour	22.83 (400 meters from well pad)	123.61 (500 meters from drill rig)	438.83 (500 meters from flare)	0.22 (500 meters from production heater)	438.83 (500 meters from flare)
CO	8-hour	4.00 (400 meters from well pad)	59.79 (500 meters from drill rig)	191.64 (500 meters from flare)	0.09 (500 meters from production heater)	191.64 (500 meters from flare)
SO_2	3-hour	0.83 (400 meters from well pad)	5.93 (500 meters from drill rig)	0.012 (200 meters from access road)	0	5.93 (500 meters from drill rig)
SO_2	24-hour	0.17 (400 meters from well pad)	2.29 (500 meters from drill rig)	0.0027 (200 meters from access road)	0	2.29 (500 meters from drill rig)
SO_2	Annual	0.00005 (400 meters from well pad)	0.032 (500 meters from drill rig)	0.00001 (200 meters from access road)	0	0.032 (500 meters from drill rig)
PM_{10}	24-hour	23.69 (200 meters from access road)	3.48 (400 meters from well pad)	4.99 (200 meters from access road)	0.03 (400 meters from well pad)	23.69 (200 meters from access road)
PM_{10}	Annual	0.0015 (200 meters from access road)	0.047 (400 meters from well pad)	0.012 (200 meters from access road)	0.001 (400 meters from well pad)	0.047 (400 meters from well pad)

Table 4-5. Maximum Ambient Air Quality Impacts for an Individual Well

Pollutant	Averaging Period	Maximum Single Well Impact ($\mu g/m^3$)	Monitored Back-ground Level ($\mu g/m^3$)	Maximum Impact Plus Back-ground ($\mu g/m^3$)	National Ambient Air Quality Standard ($\mu g/m^3$)	Wyoming Ambient Air Quality Standard ($\mu g/m^3$)	Colorado Ambient Air Quality Standard ($\mu g/m^3$)	Percentage of Most Stringent Ambient Air Quality Standard
NO_2	Annual	1.92	3.4	5.32	100	100	100	5%
CO	1-hour	438.83	2,299	2,738	40,000	40,000	40,000	7%
CO	8-hour	191.64	1,148	1,340	10,000	10,000	10,000	13%
SO_2	3-hour	5.93	29	34.93	1,300	1,300	700	5%
SO_2	24-hour	2.29	18	20.29	365	260	365	8%
SO_2	Annual	0.032	5	5.03	80	60	80	8%
PM_{10}	24-hour	23.69	47	70.69	150	150	150	47%
PM_{10}	Annual	0.047	16	16.05	50	50	50	32%

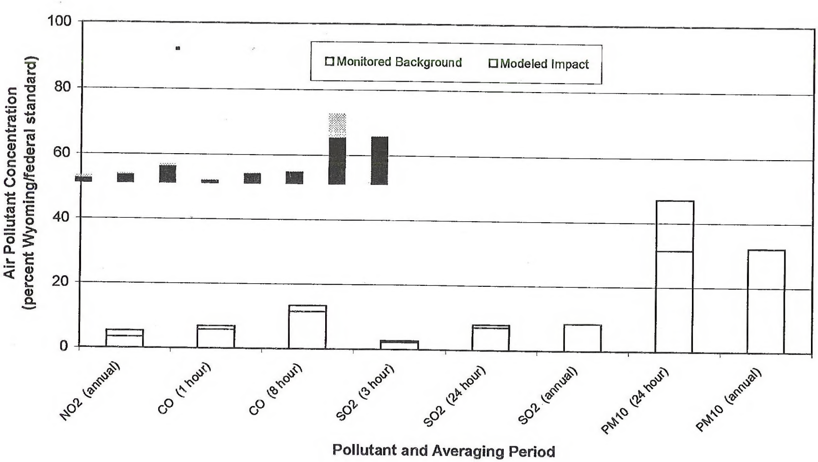


Figure 4-2. Maximum Ambient Air Quality Impacts for an Individual Well.

Table 4-6. Individual Well Increment Comparison

Pollutant	Averaging Time	Individual Well Impact (µg/m^3)	PSD Class II Increment (µg/m^3)	Percentage of Class II Increment (µg/m^3)
NO_2	Annual	1.92	25	8%
SO_2	3-hr	5.93	512	1%
SO_2	24-hr	2.29	91	3%
SO_2	Annual	0.032	20	0.2%
PM_{10}	24-hr	23.69	30	79%
PM_{10}	Annual	0.047	17	3%

Gas Plant and Well Field Sub-grid Analysis

A sub-grid analysis was also performed for a typical gas plant and surrounding well field. For the analysis it was assumed that the gas plant would consist of five separate compressor units totaling 6,000 horsepower. It was also assumed that the gas plant was centered in a producing well field with a density of one well every 40 acres. This development scenario yields the greatest impacts for the combined project sources that are likely to occur. Tables 4-7 and 4-8 present the combined gas plant and well grid impacts and compares the results to the applicable ambient standards and PSD increments. The ambient standard comparisons are also charted in Figure 4-3. As shown, the predicted impacts are below all applicable ambient standards and increment levels.

Support Road Air Pollutant Sub-grid Analysis

The analysis of emissions generated from vehicle traffic on an unpaved support road indicated that the maximum impact is from fugitive dust. The maximum 24-hour average PM_{10} impact is 23.9 µg/m^3. When added to the background concentration of 20 µg/m^3, the combined impact is 43.9 µg/m^3 which is only 29% of the most stringent ambient air quality standard (150 µg/m^3).

Hazardous Air Pollutant Sub-grid Analysis

A HAP analysis was conducted for the well field and gas plant development scenario. The potential acute (1-hour exposure) and long-term (i.e., chronic, annual) health effects that may result from the emission of the six previously listed toxins were analyzed. Emissions of each of the hazardous air pollutants were analyzed for their direct impact on health such as headaches, irritation of eyes and throat, and other potential toxic effects. In addition, benzene and formaldehyde emissions were analyzed for their carcinogenic effects.

There are no applicable Federal, Wyoming, or Colorado ambient air quality standards for assessing potential HAP impacts to human health. Therefore, reference concentrations (RfC) for chronic inhalation exposures and Reference Exposure Levels (REL) for acute inhalation exposures are applied as significance criteria. RfCs represent an estimate of the continuous, i.e. annual average, inhalation exposure rate to the human population (including sensitive subgroups such as children and the elderly) without an appreciable risk of harmful effects. The REL is the acute (i.e. one hour average) concentration at or below which no adverse health effects are expected. Both the RfC and REL guideline values are for non-cancer effects. As summarized in Table 4-9, maximum acute and chronic HAP concentrations are not predicted to exceed the RELs or RfCs. Therefore, no adverse non-carcinogenic human health effects would be expected upon implementation of the project.

Benzene and formaldehyde exposure has been associated with potential carcinogenesis. Carcinogenic impacts are assessed by evaluating annual concentrations, and assuming maximum exposure, 24 hours per day, 365 days per year for the lifetime of the project (30 years). This is termed the maximum exposure scenario. Annual concentrations were predicted for both well and compressor station emissions. Formaldehyde would be emitted primarily from compressor engines and maximum impacts were predicted at a minimum distance of 1,320 feet (400 meters) from a compressor site as this is the building offset that would be required between the construction of any occupied public dwellings and a compressor facility. Benzene emissions would be emitted primarily from wellsite dehydrators.

Table 4-7. Gas Plant and Well Field Impact

Pollutant	Averaging Period	Gas Plant and Well Field Impact (µg/m^3)	Monitored Back-ground Level (µg/m^3)	Maximum Impact Plus Back-ground (µg/m^3)	National Ambient Air Quality Standard (µg/m^3)	Wyoming Ambient Air Quality Standard (µg/m^3)	Colorado Ambient Air Quality Standard (µg/m^3)	Percentage of Most Stringent Ambient Air Quality Standard
NO_2	Annual	4.17	3.4	7.57	100	100	100	8%
CO	1-hour	168.39	2,299	2,467	40,000	40,000	40,000	6%
CO	8-hour	83.69	1,148	1,232	10,000	10,000	10,000	12%
SO_2	3-hour	0	29	29	1,300	1,300	700	4%
SO_2	24-hour	0	18	18	365	260	365	7%
SO_2	Annual	0	5	5	80	60	80	8%
PM_{10}	24-hour	7.31	47	54.31	150	150	150	36%
PM_{10}	Annual	1.69	16	17.69	50	50	50	35%

Table 4.8. Gas Plant and Well Field Increment Comparison

Pollutant	Averaging Time	Gas Plant and Well Field Impact (µg/m^3)	PSD Class II Increment (µg/m^3)	Percentage of Class II Increment (µg/m^3)
NO_2	Annual	4.17	25	17%
SO_2	3-hr	0	512	0%
SO_2	24-hr	0	91	0%
SO_2	Annual	0	20	0%
PM_{10}	24-hr	7.31	30	24%
PM_{10}	Annual	1.69	17	10%

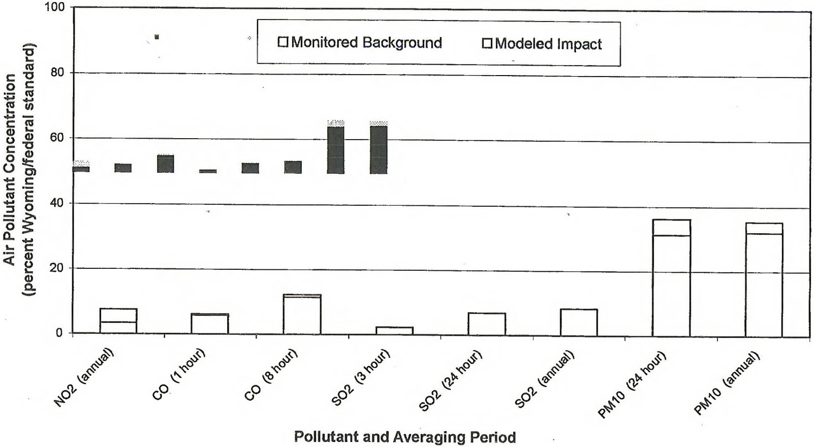


Figure 4-3. Gas Plant and Well Field Impact.

The predicted impacts, summarized in Table 4-10, indicate that the maximum incremental cancer risk which may result from benzene emissions is estimated at 2 incidents per million exposures, which exceeds the threshold level of 1 incident per million. The benzene incremental risk is based upon a maximum concentration predicted within 100 meters of a wellsite dehydrator. However, the benzene concentrations decrease rapidly as the distance from the dehydrator increases, and at distances of 300 meters or greater, the benzene concentration is reduced by 50% and the associated incremental cancer risk would be less than 1 incident per million exposures. In light of the remote nature of the DFPA, it is unlikely that wellsite facilities would be constructed within 300 meters of an occupied public building.

Ozone Sub-grid Analysis

Ozone is formed in the atmosphere through a series of complex nonlinear chemical reactions involving NO_X, VOC and sunlight. The EPA ozone formation screening methodology for point sources (Scheffe 1988) provides an estimate of the maximum potential incremental ozone concentration that could possibly occur due to emissions from the new sources. The maximum potential ozone increment is then added to the current existing maximum background ozone concentration and compared with the ozone standard to determine whether there is a potential for the new sources to cause an exceedance of the ozone standard. If the results of the screening methodology indicate a high potential for an exceedance, a refined analysis is required since the screening methodology is highly conservative.

Table 4-9. Hazardous Air Pollutant Impacts

Hazardous Air Pollutant	Maximum Predicted acute (1-hour) Impact ($\mu g/m^3$)	Reference Exposure Level ($\mu g/m^3$)	Acute Impact Percentage of the REL	Maximum Predicted Chronic (annual) Impact ($\mu g/m^3$)	Reference Concentration ($\mu g/m^3$)	Chronic Impact Percentage of the RfC
Benzene	139	1,300 [1]	11 %	0.71	30 [3]	2 %
Toluene	356	37,000 [1]	1 %	3.35	400 [3]	1%
Ethylbenzene	191	350,000 [2]	Less than 1%	1.79	1,000 [3]	Less than 1%
Xylenes	250	22,000 [1]	1 %	2.34	100 [3]	2 %
n-Hexane	127	390,000 [2]	Less than 1%	1.94	200 [3]	1 %
Formaldehyde	8.36	94 [1]	9 %	0.25	9.8 [3]	3 %

1 - EPA Air Toxics Database, Table 2 (EPA 2002)
2 - Immediately Dangerous to Life or Health (IDLH/10), EPA Air Toxics Database, Table 2 (EPA 2002) since no REL is available
3 - EPA Air Toxics Database, Table 1 (EPA 2003)

The total project NO_X and VOC emissions (wells plus compression at full development) were used in the screening analysis. Construction emissions of VOC are much less than 50 tons per year, and are therefore not expected to cause an increase in ozone concentrations (per the screening methodology). The screening tables indicate a maximum potential ozone formation of 0.009 ppm, or 18 $\mu g/m^3$. When this maximum potential is added to the background concentrations, the total ozone concentrations are 187 $\mu g/m^3$ for the 1-hour average as compared to a standard of 235 $\mu g/m^3$.

Table 4-10. Potential Incremental Carcinogenic Risk

Hazardous Air Pollutant	Incremental Carcinogenic Risk (incidents per million exposures)
Benzene	2 incidents per million exposures at 100 meters from a wellsite. Less than 1 incident per million exposures at 300 meters or greater from a wellsite.
Formaldehyde	Less than 1 incident per million exposures at 400 meters from a compressor station.

Table 4-11. Potential Ozone Impact

Pollutant	Averaging Period	Gas Plant and Well Field Impact ($\mu g/m^3$)	Monitored Back-ground Level ($\mu g/m^3$)	Maximum Impact Plus Back-ground ($\mu g/m^3$)	National Ambient Air Quality Standard ($\mu g/m^3$)	Wyoming Ambient Air Quality Standard ($\mu g/m^3$)	Colorado Ambient Air Quality Standard ($\mu g/m^3$)	Percentage of Most Stringent Ambient Air Quality Standard
O_3	1-hr	18	169	187	235	235	235	80%

4.2.3.1.3 Alternative A Near-Field Impact Analysis

The CALPUFF set of models was applied in a near-field mode (4 to 50 km) to estimate short-term (less than or equal to 24-hour) and long-term (annual) regulated pollutant concentrations for comparisons with federal and state ambient air quality standards within 50 km of the DFPA (Table 4-12 and Figure 4-4). The results are also compared to the PSD Class II increments (Table 4-13).

The maximum predicted concentrations for all PSD pollutants range from much less than 1 percent (for SO_2) to 16% (for PM_{10}) of the applicable PSD Class II increments. When the maximum estimated concentrations are added to the existing maximum background concentrations, the total estimated concentrations for all regulated pollutants are also less than the applicable federal and state ambient air quality standards. Therefore, potential pollutant concentrations that may result from the project are not expected to cause significant impacts within 30 miles of the project area.

4.2.3.1.4 Alternative A Impacts Within the Monument Valley Management Area

Potential air quality impacts within MVMA were not directly assessed. However, Alternative A impacts within MVMA would not exceed the gas plant and well field impacts previously presented in Tables 4-6 and 4-7. Similarly, support road, ozone, and HAP impacts would not exceed the previously discussed levels.

Table 4-12. Alternative A Near-Field Ambient Air Quality Impacts

Pollutant	Averaging Period	Total Project Impact (μg/m³)	Monitored Back-ground Level (μg/m³)	Maximum Impact Plus Back-ground (μg/m³)	National Ambient Air Quality Standard (μg/m³)	Wyoming Ambient Air Quality Standard (μg/m³)	Colorado Ambient Air Quality Standard (μg/m³)	Percentage of Most Stringent Ambient Air Quality Standard
NO_2	Annual	1.51	3.4	4.91	100	100	100	5%
SO_2	3-hour	0.15	29	29.15	1,300	1,300	700	4%
SO_2	24-hour	0.08	18	18.08	365	260	365	7%
SO_2	Annual	0.02	5	5.02	80	60	80	8%
PM_{10}	24-hour	4.88	47	51.88	150	150	150	35%
PM_{10}	Annual	1.55	16	17.55	50	50	50	35%

Table 4-13. Alternative A Near-Field Increment Comparison

Pollutant	Averaging Time	Total Project Impact (μg/m³)	PSD Class II Increment (μg/m³)	Percentage of Class II Increment (μg/m³)
NO_2	Annual	1.51	25	6%
SO_2	3-hr	0.15	512	0.03%
SO_2	24-hr	0.08	91	0.1%
SO_2	Annual	0.02	20	0.1%
PM_{10}	24-hr	4.88	30	16%
PM_{10}	Annual	1.55	17	9%

4.2.3.1.5 Alternative A Far-Field Impact Analysis

The CALPUFF model was also applied to estimate the far-field (50 km to over 200 km) ambient air quality and AQRV impacts from the Desolation Flats project. The far-field analysis estimates the total impacts due to the existing background and project sources. Impacts on air quality were estimated at nearby Class I and Class II areas. The sensitive areas include:

- Bridger Wilderness (Class I);
- Fitzpatrick Wilderness (Class I);
- Popo Agie Wilderness (Class II);
- Wind River Roadless Area (Class II);
- Dinosaur National Monument (Class II);
- Savage Run Wilderness (Class I);
- Mount Zirkel Wilderness (Class I), and
- Rawah Wilderness (Class I).

The model was used to estimate ambient NO_2, SO_2, and PM_{10} concentrations for comparison with federal and state ambient air quality standards and PSD Class I increments and to address potential AQRV impacts. The maximum impacts for all pollutants and averaging times were found to occur at Dinosaur National Monument which is classified as a federal PSD Class II area. However, Colorado affords protection to that portion of Dinosaur National Monument within the state with the more stringent PSD Class I increments for SO_2. Table 4-14 and Figure 4-5 present the maximum impacts for the project sources and compare the results to the ambient standards. The estimated concentrations for all pollutants are far below the applicable federal and state ambient air quality standards. In Table 4-15 the impacts for all pollutants at Dinosaur National Monument are compared to the more stringent PSD Class I increments although the Class I increments only apply to SO_2. The maximum concentration impacts due to project sources alone are less than one percent of the Class I increments. The far-field ambient concentration impacts for all eight sensitive areas are provided in the Air Quality Technical Report.

Visibility Impacts

Far field impacts of project emissions on visibility degradation at the sensitive receptor areas was evaluated using the IWAQM/FLAG-recommended method (see the Air Quality Technical Report).

In this method, visibility degradation due to the project sources alone was compared against a background visibility condition based on the mean of the 20 percent cleanest days as reconstructed from IMPROVE aerosol data. Two long-term background data sets were available, one at Bridger Wilderness area and one at Mount Zirkel Wilderness area. In order to apply background visibility data consistent with the 1995 inventory date, Bridger data for the period 1987 through June 30, 1995 and Mount Zirkel data for the period 1994 to 1997 were applied. The Bridger IMPROVE data were used to represent background visibility conditions at Bridger, Fitzpatrick, and Popo Agie Wilderness Areas and the Wind River Roadless Area. The Mount Zirkel data were used to represent conditions in Dinosaur National Monument and the Mount Zirkel, Savage Run, and Rawah Wilderness Areas.

There are two thresholds of visibility change which are used for determining the significance of potential impacts: the number of days in which the deciview change (Δ dv) is 1.0 or greater; and the number of days in which the Δ dv change is 0.5 or greater. The FS uses the 0.5 Δ dv as a LAC threshold in order to protect visibility in sensitive areas. The 1.0 Δ dv threshold is used in the Regional Haze Regulations as a small but just noticeable change in haziness and has been used by other agencies as a management threshold. The 0.5 and 1.0 Δ dv thresholds are neither standards nor regulatory limits. Rather, they are used to alert the affected land managers that potential adverse visibility impacts may exist and the land manager may wish to look at the magnitude, duration, frequency, and source of the impacts in more detail in order to make a significance determination. The maximum deciview change due to the Desolation Flats project emissions alone is 0.239 Δ dv at Dinosaur National Monument (a PSD Class II area), as shown in Table 4-16. Therefore, the estimated visibility impacts due to the project alone do not exceed the LAC thresholds of 0.5 or 1.0 Δ dv.

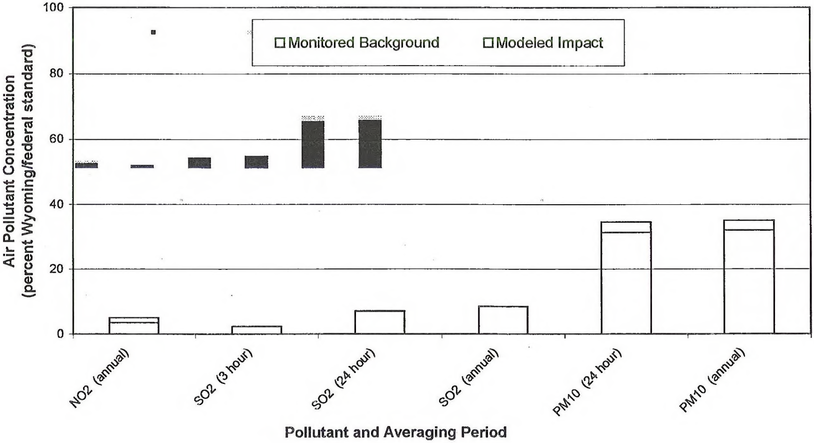


Figure 4-4. Alternative A Near-Field Ambient Air Quality Impacts.

Table 4-14. Alternative A Far-Field Ambient Air Quality Impacts

Pollutant	Averaging Period	Total Project Impact ($\mu g/m^3$)	Monitored Back-ground Level ($\mu g/m^3$)	Maximum Impact Plus Back-ground ($\mu g/m^3$)	National Ambient Air Quality Standard ($\mu g/m^3$)	Wyoming Ambient Air Quality Standard ($\mu g/m^3$)	Colorado Ambient Air Quality Standard ($\mu g/m^3$)	Percentage of Most Stringent Ambient Air Quality Standard
NO_2	Annual	0.011	3.4	3.41	100	100	100	3%
SO_2	3-hour	0.017	29	29.02	1,300	1,300	700	4%
SO_2	24-hour	0.003	18	18.00	365	260	365	7%
SO_2	Annual	0.0001	5	5.00	80	60	80	8%
PM_{10}	24-hour	0.033	47	47.03	150	150	150	31%
PM_{10}	Annual	0.00007	16	16.00	50	50	50	32%

Table 4-15. Alternative A PSD Class I Increment Comparison

Pollutant	Averaging Time	Maximum Project Impact ($\mu g/m^3$)	PSD Class I Increment ($\mu g/m^3$)	Percentage of Class I Increment ($\mu g/m^3$)
NO_2	Annual	0.011	2.5	0.4%
SO_2	3-hr	0.017	25	0.07%
SO_2	24-hr	0.003	5	0.06%
SO_2	Annual	0.0001	2	0.005%
PM_{10}	24-hr	0.033	8	0.4%
PM_{10}	Annual	0.00007	4	0.002%

Atmospheric Deposition and Impacts

The potential impact of the project emission sources on atmospheric deposition were analyzed using the Fox (1989) method (see Air Quality Technical Report). This method was used to estimate the potential change in ANC at each of 12 sensitive lakes (Table 4-17). This approach uses a set of equations to estimate how added deposition may change lake ANC from monitored background conditions. This approach assumes that ANC generation is constant, and does not factor in watershed buffering ability, lake flushing time or aquatic ecosystem bio-geochemistry. However, it does provide a conservative estimate for potential changes in lake ANC.

For lakes with background minimum measured ANC values of 25 µeq/l or greater, the FS has identified a LAC threshold of 10 percent change. For lakes with a minimum ANC background of less than 25 µeq/l, the FS has identified a LAC threshold of 1 µeq/l. Of the twelve lakes

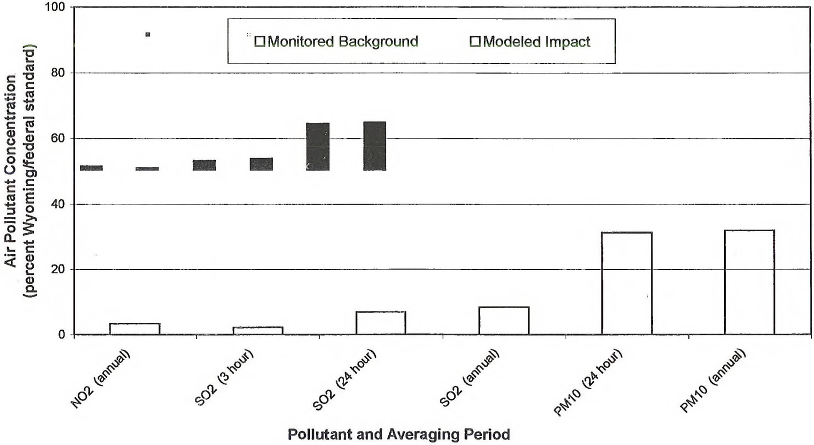


Figure 4-5. Alternative A Far-Field Ambient Air Quality Impacts.

analyzed, three have ANC background less than 25 µeq/l. Table 4-17 presents the results of the analysis and indicates that the potential change in sensitive lake ANC is much less than the levels of acceptable change. Therefore, potential changes in lake ANC due to project impacts alone are not expected to be significant.

Table4-16. Alternative A Predicted Visibility Impacts From the Project

Sensitive Receptor Area	Maximum Visibility Impact (Δ dv)	Visibility Significance Criteria (Δ dv)	Number of Days Greater Than 0.5 Δ dv	Number of Days Greater Than 1.0 Δ dv
Bridger Wilderness	0.079	0.5 / 1.0	0	0
Fitzpatrick Wilderness	0.046	0.5 / 1.0	0	0
Wind River Roadless Area	0.048	0.5 / 1.0	0	0
Popo Agie Wilderness	0.073	0.5 / 1.0	0	0
Dinosaur National Monument	0.239	0.5 / 1.0	0	0
Savage Run Wilderness	0.115	0.5 / 1.0	0	0
Mount Zirkel Wilderness	0.093	0.5 / 1.0	0	0
Rawah Wilderness	0.079	0.5 / 1.0	0	0

4.2.3.2 Proposed Action

Under the Proposed Action, 385 wells would be developed with an expected success rate of 65 percent or 250 producing wells. The Proposed Action represents a 35 percent reduction in well development when compared to Alternative A and it is expected that compression requirements for the Proposed Action would also be reduced by a similar percentage. Potential air quality impacts resulting from the implementation of the Proposed Action would be less than those previously described for Alternative A. No significant adverse impacts to air quality are anticipated as a result of the implementation of the Proposed Action.

Table 4-17. Alternative A Potential Atmospheric Deposition Impacts

Sensitive Lake	Sensitive Area	Monitored Background ANC (µeq/l)	Level of Acceptable Change	Change In ANC (µeq/l)	Percentage of LAC
Black Joe Lake	Bridger Wilderness	69.0	10% (6.9 µeq/l)	0.008	0.12%
Deep Lake	Bridger Wilderness	61.0	10% (6.1 µeq/l)	0.008	0.13%
Hobbs Lake	Bridger Wilderness	68.0	10% (6.8 µeq/l)	0.005	0.07%
Upper Frozen	Bridger	5.7	1 µeq/l	0.008	0.80%

Lake	Wilderness				
Ross Lake	Fitzpatrick Wilderness	61.4	10% (6.1 μeq/l)	0.004	0.07%
Lower Saddlebag	Popo Agie Wilderness	55.5	10% (5.6 μeq/l)	0.010	0.17%
Pothole A-8	Mount Zirkel Wilderness	16.0	1 μeq/l	0.037	3.70%
Seven Lakes	Mount Zirkel Wilderness	35.5	10% (3.6 μeq/l)	0.069	1.92%
Upper Slide Lake	Mount Zirkel Wilderness	24.7	1 μeq/l	0.039	3.90%
West Glacier Lake	Medicine Bow	26.1	10% (2.6 μeq/l)	0.044	1.69%
Island Lake	Rawah Wilderness	64.6	10% (6.5 μeq/l)	0.031	0.47%
Rawah #4 Lake	Rawah Wilderness	41.2	10% (4.1 μeq/l)	0.032	0.78%

4.2.3.3 Alternative B - No Action

Impacts to air quality under the No Action Alternative would occur at allowable levels and no significant impacts are anticipated. Actions approved under the Mulligan Draw EIS and Dripping Rock / Cedar Breaks EA may still be completed within the project area. Completion of the previously approved actions would involve the development of approximately 71 wells, therefore the impacts are expected to be less than Alternative A and the Proposed Action. In the absence of further development in the DFPA, no additional project related air quality impacts would occur.

4.2.4 Impacts Summary

No significant adverse impacts to air quality from the project alone are anticipated as a result of the implementation of the Proposed Action, Alternative A or the No Action Alternative. Localized increases in criteria pollutants would occur, but maximum concentrations would be below applicable federal and state standards. Similarly, hazardous air pollutant concentrations and incremental increases in cancer risk would also be below applicable significance levels. Potential impacts to visibility and acid neutralizing capacity would be below the levels of acceptable change. Table 4-18 summarizes the potential impacts that may occur if the project were implemented.

Table 4-18. Alternative A Impacts Summary

Air Quality Component	Potential Impacts
Criteria Pollutant Concentrations	

Air Quality Component	Potential Impacts
Ambient Air Quality Standards	Alternative A Gas Plant and Well Field concentrations are in compliance with applicable NAAQS, WAAQS and CAAQS • NO_2 concentration 8% of standard • CO concentrations are 6 - 12% of standards • SO_2 concentrations 4 - 8% of standards • PM_{10} concentrations 35 - 36% of standards Alternative A Near-Field concentrations are in compliance with applicable NAAQS, WAAQS and CAAQS • NO_2 concentration 5% of standard • SO_2 concentrations 4 - 8% of standards • PM_{10} concentrations 35% of standards • O_3 concentration 80% of standard Alternative A Far-Field concentrations are in compliance with applicable NAAQS, WAAQS and CAAQS • NO_2 concentration 3% of standard • SO_2 concentrations 4 - 8% of standards • PM_{10} concentrations 31 - 32% of standards
PSD Increments	Alternative A Gas Plant and Well Field concentrations are well below applicable PSD Class II increments • NO_2 concentration 17% of increment • SO_2 concentration 0% of increments • PM_{10} concentrations 10 - 24% of increments Alternative A Near-Field project concentrations are well below applicable PSD Class II increments • NO_2 concentration 6% of increment • SO_2 concentration 0.03 - 0.1% of increments • PM_{10} concentrations 9 - 16% of increments Alternative A Far-Field project concentrations are well below applicable PSD Class I increments • NO_2 concentration 0.4% of increment • SO_2 concentration 0.005 - 0.07% of increments • PM_{10} concentrations 0.002 - 0.4% of increments
Hazardous Air Pollutant Concentrations	
Acute and Chronic Exposure Levels	Alternative A HAP concentrations are below the acute and chronic human health exposure thresholds • Acute (1-hr) concentrations < 1 - 9% of Reference Exposure Levels • Chronic (Annual) concentrations <1 - 3% of Reference Concentrations
Incremental Cancer Risk	Alternative A incremental cancer risk is within a reasonable range • Benzene risk of 2 incidents per million exposures at 100 meters from a wellsite • Benzene risk is reduced to less than 1 incident per million exposures at 300 meters from a wellsite • Formaldehyde risk of less than 1 incident per million exposures at 400 meters from a compressor station.

Air Quality Component	Potential Impacts
Visibility Impacts	
Number of Days with Greater Than 0.5 Δdv or 1.0 Δdv	Alternative A potential visibility impacts would be less than the 0.5 and 1.0 Δdv thresholds • Bridger Wilderness 0.079 Δdv • Fitzpatrick Wilderness 0.046 Δdv • Wind River Roadless Area 0.048 Δdv • Popo Agie Wilderness 0.073 Δdv • Dinosaur National Monument 0.239 Δdv • Savage Run Wilderness 0.115 Δdv • Mount Zirkel Wilderness 0.093 Δdv • Rawah Wilderness 0.079 Δdv

Air Quality Component	Potential Impacts
Atmospheric Deposition Impacts	
Lake Acid Neutralizing Capacity Levels of Acceptable Change (LAC)	Changes in lake ANC resulting from Alternative A would Be less than the LACs • Black Joe Lake 0.12% of LAC • Deep Lake 0.13% of LAC • Hobbs Lake 0.07% of LAC • Upper Frozen Lake 0.8% of LAC • Ross Lake 0.07% of LAC • Lower Saddlebag Lake 0.17% of LAC • Pothole A-8 Lake 3.7% of LAC • Seven Lakes 1.92% of LAC • Upper Slide Lake 3.9% of LAC • West Glacier Lake 1.69% of LAC • Island Lake 0.47% of LAC • Rawah #4 Lake 0.78% of LAC

4.2.5 Additional Mitigation Measures

Potential air quality impacts resulting from the project could be reduced through the implementation of engineering controls or other measures. The following potential mitigation measures (Table 4-19) could reduce impacts from emissions. The appropriate level of control will be determined and required by the WDEQ-AQD during the pre-construction permit process.

Table 4-19. Summary of Potential Mitigation Measures

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
NO_X and CO Mitigation Measures				
Utilize selective catalytic reduction on compressors.	Relatively expensive as compared to non-selective catalysts. Typical costs are $125/horsepower (EPA Cost Control Manual, January 2002).	Requires the use and storage of ammonia, which presents health and safety issues. Results in increased ammonia emissions which may contribute to the formation of ammonium sulfates and increased visibility degradation.	NO_X emission rate reduced to 0.1 g/hp-hr. Reduced ammonium nitrate formation and resulting visibility impacts.	Not applicable for 2-stroke engines.
Application of non-selective catalytic reduction.	$5,000 to $25,000 per unit.	Regeneration / disposal costs for catalysts.	As a result of the BACT process, average NO_X emission rates for Wyoming engines 100 hp or greater is 1.0 g/hp-hr. The application of non-selective catalysts may reduce the NO_X emission rate to 0.7 g/hp-hr for some types of engines.	Not applicable for Lean-burn or 2-stroke engines.

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
Utilize compressors driven by electrical motors.	Capital costs equal 40% of gas turbine costs. Operating cost dependent upon the location of high voltage power lines.	Displaced air emissions from compressor units to electrical power plant.	May potentially relocate emissions away from sensitive Class I areas.	Requires high voltage power lines.
Increased diameter of sales pipelines.	With larger diameter sales pipelines, capital costs increase while operating costs decrease.	Slightly more surface disturbance.	Lower pipeline pressures resulting in lower compression hp requirements.	
Utilize wind generated electricity to power compressors.	Capital costs are very large.	Visual impacts from generation equipment. Increased mortality of birds including raptors.	Reduced use of fossil fuels and associated emissions.	Location of wind generation facilities is critical. Requires consistent strong winds for economic operation. Also requires high voltage transmission lines between generation facility and compressor stations.

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
Increased Monitoring.	Unknown.	None.	The WDEQ-AQD currently has an emission tracking agreement with the BLM. The *Amended Letter of Agreement for Tracking Nitrogen Oxide Emissions* dated April 2000 calls for annual reports tracking changes in NOX emission beginning January 1, 1996.	The monitoring of emission sources provides improved information for estimating impacts, but does not reduce the magnitude of the impacts.

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
Phased development.	Short term loss of State and Federal royalties.	Emissions generated at a lower rate averaged over a longer period.	Peak emissions and associated impacts reduced.	Administration / jurisdiction limitations - The WDEQ-AQD is the regulatory authority for air quality within the State of Wyoming. Therefore, the BLM cannot limit or otherwise restrict development based upon potential air quality impacts. Economic limitations - A minimum production rate is required to cost effectively develop the resource while maintaining the processing and transportation infrastructure.

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
Particulate Matter Mitigation Measures				
Increase water application rate to achieve greater than 50% fugitive dust control.	Varies with the source of the water and the trucking distance.	None	Can achieve fugitive dust control rates up to 95%.	Diminishing returns per gallon of water applied. Water must be applied at much greater rates to achieve control efficiencies greater than 75%.
Unpaved Road Dust Suppressant Treatments.	$2,400 to $50,000 per mile.	Treatment chemicals have the potential to negatively impact water quality.	Estimated 20% to 100% reduction in fugitive dust emissions.	
Administrative control of speed limits	Relatively low costs for installation of signs and enforcement.	None	Slower speeds may provide 20% to 50% reduction in dust emissions.	State or County may retain authority for determining speed limits on primary roads.

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
Installation of remote telemetry.	Approximately $13,000 per well.	None	Reduction in vehicle miles traveled and associated vehicle emissions during production operations. No benefit for construction operations which generate the greatest amount of PM.	Effective only for the production phase of the operations. Would have no impact upon construction activities which generate the greatest amount of particulate matter.
Gravel roads.	Approximately $9,000 per mile.	None	Estimated 30% reduction in fugitive road dust.	
Pave roads.	Approximately $11,000 to $60,000 per mile	None	Estimated 90% reduction in fugitive road dust.	

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
Phased development.	Short term loss of State and Federal royalties.	Emissions generated at a lower rate averaged over a longer period.	Peak emissions and associated impacts reduced.	Administration / jurisdiction limitations - The WDEQ-AQD is the regulatory authority for air quality within the State of Wyoming. Therefore, the BLM cannot limit or otherwise restrict development based upon potential air quality impacts. Economic limitations - A minimum production rate is required to cost effectively develop the resource while maintaining the processing and transportation infrastructure.

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
VOC and HAP Mitigation Measures				
Use of condenser controls on dehydrator still vents.	$1,000 to $10,000 for capital equipment.	Larger units may require electrical power.	VOC/HAP emission reductions ranging from 1% to 50%.	The effectiveness of passive condensers is dependent upon ambient air temperatures. Control efficiency decreases with increasing temperatures.
Use of combination condenser / combustion controls on dehydrator still vents.	$5,000 to $25,000 for capital equipment plus increased maintenance costs.	Larger units may require electrical power. Increased NO_X and CO emissions.	VOC/HAP control rates ranging from 95% to better than 99%.	May require continuous electrical power source for larger units.
Minimize dehydrator glycol circulation rates.	Minimal costs associated with increased monitoring and maintenance.	None.	May reduce VOC and HAP emissions by 1% to 50%.	Glycol circulation rates may only be reduced to the point where gas quality still meets pipeline specifications.

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
Use of oxidation catalysts on compressor engines.	\$5,000 to \$10,000 capital costs.	Disposal of spent catalysts.	Typically reduces formaldehyde emissions by 50%. Reductions of up to 90% may be achieved. Also reduces CO emissions by similar percentages.	Not applicable for 2-stroke engines.
Use of flares or smokeless combustion units to control vapors from condensate storage tanks	\$5,000 to \$20,000 per well.	Increased NO_X and CO emissions. May contribute to light pollution.	Reduction in tank emissions of 95% or better.	
Use of activated carbon filters on condensate tanks	\$1,000 initial capital costs. High maintenance costs.	High energy costs for replacement / regeneration of carbon filters	Estimated 50% to 80% reduction in VOC and HAP emissions.	
Green completion / flowback unit.	Capital costs range from \$1,000 to \$10,000. Operating costs estimated at \$1,000 per year.	Potential for reduced gas production.	Potentially reduces completion flaring/venting emissions by 70% to 90%.	

Type of Mitigation	Estimated Cost of Mitigation	Environmental Cost	Environmental Benefit	Potential Limitations
Phased development.	Short term loss of State and Federal royalties.	Emissions generated at a lower rate averaged over a longer period.	Peak emissions and associated impacts reduced.	Administration / jurisdiction limitations - The WDEQ-AQD is the regulatory authority for air quality within the State of Wyoming. Therefore, the BLM cannot limit or otherwise restrict development based upon potential air quality impacts. Economic limitations - A minimum production rate is required to cost effectively develop the resource while maintaining the processing and transportation infrastructure.

4.2.6 Residual Impacts

Implementation of the Proposed Action or Alternative A would cause increased levels of pollutants in the ambient air. As previously discussed, the increased pollutant concentrations are not predicted to exceed ambient air quality standards or PSD increments. The increased pollutant concentrations from the project would not directly cause visibility or atmospheric deposition impacts exceeding the applicable LAC.

With the implementation of one or more of the previously described additional mitigation measures, the emission of air pollutants would be reduced below the levels previously described for Alternative A.

4.4.3.1.1 Surface Water

Page 4-42, delete sentence starting with "However," in the 4th paragraph.

Page 4-43, between second and third paragraph add paragraph: "Dust abatement activities on local roads may use water obtained from SEO-approved surface water sources and/or water wells. Magnesium chloride or other approved dust control chemicals may be used to enhance the effectiveness of these activities. Supplemental materials added to dust abatement water will comply with product labels and state and federal laws. No adverse effects are anticipated from such activity."

Page 4-44, second paragraph, add the following to the end of the paragraph: "No deterioration of surface or ground water quality is anticipated under this project."

4.4.3.2 Alternative A

Page 4-46, second paragraph delete the sentence starting with "The source of ..." and in the second sentence change it to read:

> "Water would be obtained from an SEO-approved water well that is non-tributary to the Colorado River System."

4.4.4 Impacts Summary

Page 4-47, delete sentence starting with "However," in the 3rd paragraph.

4.5.3.1 Proposed Action

Page 4-49, change last sentence in fourth paragraph to read: "However with incorporation of invasive/noxious weed management strategies into planning and design processes for all surface disturbance activities, and utilization of other invasive/non-native species mitigations and reclamation, no significant impacts are expected."

Page 4-50, delete from "...or under Wyoming General Permit..." in the first paragraph (third line) to the end of that paragraph.

Page 4-50, add the following text to the end of 4.5.3.1:

Biological soil crusts may be affected by DFPA implementation activities. Crusts are well adapted to severe growing conditions, but poorly adapted to compressional disturbances such as trampling by humans and livestock, wild horses, wildlife, or vehicles driving off roads. Disruption of the crusts can result in localized decreases in organism diversity, soil nutrients, stability, and organic matter. Applicant committed measures, combined with mitigations reducing off-road vehicular traffic and minimizing soil disturbance will reduce adverse effects on biological soil crusts. Significant effects are not anticipated within the DFPA to biological soil crusts or other associated, related, or dependent biota under this alternative. Effects from Alternative A are anticipated to be slightly greater extent than the proposed action, but still not significant.

4.7.1 Introduction

Page 4-56, change paragraph to read, "The principal wildlife impacts likely to be associated with the Proposed Action or alternatives include: (1) a direct loss of certain wildlife habitat, (2) the displacement of some wildlife species, (3) an increase in the potential for collisions between wildlife and motor vehicles, (4) an increase in the potential for the illegal kill and harassment of wildlife, and (5) increased shooter accessibility within the overall DFPA which could result in increased mortality to legally hunted species including prairie dogs and game species.

4.7.1.3.6 Combinations of Wildlife Concerns

Page 4-69, at the end of the section, add: "Proposed "Additional Mitigation Measure's" are detailed at 4.7.5, page 4-72."

4.7.3.1.1 General Wildlife

Page 4-59, Add the following text at the end of the first paragraph.

"Displacement of wildlife from construction and operational activities would occur, however the extent would vary depending on the specifics of the proposal and the areas effected. In addition, different species and individuals have differing tolerance levels. Subsequent site specific NEPA analysis would provide for minimization or mitigation of adverse impacts, including disturbance".

4.7.5 Additional Mitigation Measures

Page 4-72, replace text in the 6th bullet with the following: "No permanent above-ground structures would be constructed within 825 feet for all raptors, except 1,200 feet for ferruginous hawks."

4.8.1.2.1 Proposed Action

Page 4-76, replace text starting with "The Proposed Action ..." at the end of the 5th paragraph with the following text: "The Proposed Action would deplete approximately 2.3 acre-feet of water per year, and thus a mitigation fee would be applicable. In case water connected to the Colorado River system is inadvertently used by third party contractors or others erroneously, the BLM has consulted with and received concurrence from the USF&WS on the effects of such an action upon endangered fishes."

4.8.1.4 Additional Mitigation Measures

Page 4-80, add the following mitigation measure:

> "Water used for well drilling operations would be obtained from an SEO-approved water well that is non-tributary to the Colorado River System."

4.8.2.2.1 Proposed Action

Page 4-82, White-tailed Prairie Dog, insert the following before the last sentence: "While placement of structures near prairie dog colonies will be avoided where feasible, increased raptor perching with accordingly higher levels of prairie dog predation may occur in the immediate vicinity of such perches, if any occur. The anticipated disturbance…."

Page 4-83, Western Burrowing Owls, change "should" to "will" in the third line of the paragraph. In the same section, fifth line, change "4.7.4.1.6" to "4.7.3.1.5."

Page 4-85, Ferruginous Hawk, fourth line, change "4.7.4.1.6" to "4.7.3.1.5."

4.8.2.2.3 Alternative B – No Action

Page 4-89, delete the word "considerably" in the fourth sentence.

4.11.3.1 Proposed Action

Page 4-99, add the following after the first paragraph:

"Under the proposed action it is anticipated that 385 oil and gas wells would be drilled (592 for the alternative A), disturbing about 2,029 acres of land (including all related facilities and pipelines) (3,193 acres for alternative A). Standard inventory and recordation procedures conducted in conjunction with actions would protect most cultural resources from significant damage and would increase the database of known cultural properties.

Construction activities resulting from minerals actions that disturb the ground surface and subsurface would have the potential to directly impact cultural resources not identified prior to the activity. Unanticipated subsurface discoveries (cultural resources found during and not prior to ground disturbing activities) would potentially occur from well location, road, and pipeline construction in culturally sensitive areas. Impacts to cultural resources identified in a discovery situation are greater than impacts to resources that were previously identified (and thereby avoided or subjected to mitigation measures) because damage to discovered sites occurs prior to their recordation and evaluation, thereby complicating mitigation procedures. Unanticipated discoveries result in the loss of some or occasionally all of the cultural resource involved. However, mitigation of impacts to discoveries is often accomplished through data recovery excavations that increase our understanding of prehistory.

Areas within ¼ mile of cultural resources eligible to the NRHP under Criteria A, B, or C would be subject to avoidance for all ground disturbing activities. This will ensure the protection of those sites from activities that may compromise the values for which they are eligible.

The visual setting (viewshed) of cultural resources eligible to the NRHP under Criteria A, B, or C would be managed to mitigate adverse visual impacts to a distance of two miles or the visual horizon, for actions which do not exceed 20 feet in height. Development projects that are greater than 20 feet in height would be evaluated on a case-by-case basis to determine the visual impacts greater than two miles. This will ensure the protection of those sites from activities that may compromise the values for which they are eligible."

Page 4-99, add the following at the end of the second (middle) paragraph: "Increased accessibility from roads within the DFPA can increase the amount of illegal artifact collection activity."

Page 4-99, change the first sentence of the last paragraph to read: "Contributing segments of historic trails, including the Cherokee Trail, would be avoided…."

4.15.3.1 Proposed Action

Page 4-128, fourth paragraph in the part, change the reference to sage grouse noise sensitivity from "4.7.4.1.4" to "4.7.3.1.4."

SECTION 2: ADDENDUM AND ERRATA

CHAPTER 5: CUMULATIVE IMPACT ANALYSIS

5.3.2 Climate and Air Quality

Page 5-6, Replace entire Section 5.3.2 of DEIS with the following text:

The CIA area for climate and air quality consists of southwestern Wyoming and northwestern Colorado. Cumulative impacts result from the development of the DFPA and other NEPA approved projects in combination with state permitted sources and other sources not subject to NEPA analysis.

5.3.2.1 Cumulative Emissions Inventory

For the cumulative analysis, three additional emission inventories were developed and combined with the Desolation Flats project emissions. One of the additional inventories accounted for emissions from state permitted sources that began operation between July 1995 and January 2001. Emissions for sources operating before 1995 were assumed to be included in the background monitoring data. Permit records obtained from the WDEQ-AQD and the CDPHE-APCD provided the basis for this inventory. Both permitted emission increases and decreases were accounted for in the inventory. One notable permitted emission decrease was the installation of low NO_X burners on boiler #3 at the Naughton power plant in southwest Wyoming, approximately 130 miles from the DFPA. This control project was financed by Ultra Petroleum and resulted in a reported 1,000 ton per year decrease in NO_X emissions.

A second emission inventory addressed changes in existing well emissions that occurred between the 1995 background monitoring date and January 2001. To account for emissions resulting from new wells drilled in the region and the decline in production or the abandonment of existing wells, production figures between the 1995 inventory date and January 2001 were used to estimate the change in well emissions by county. Both county wide increases and decreases in well emissions were observed in this inventory.

The remaining emission inventory accounted for emissions from Reasonably Foreseeable Development (RFD). The RFD category was comprised of emissions addressed in previously approved NEPA actions that had not been constructed as of January, 2001. Table 5-1 summarizes the NEPA actions included in the analysis while Figure 5-2 presents the location of the projects.

Table 5-1. NEPA Approved Reasonable Foreseeable Development

Approved NEPA Action	Map Symbol	Project Area	Remaining Wells to Be Developed	Remaining Compression to Be Installed (hp)
BTA Bravo	BB	23.80	2	0
Burley	BR	3.18	16	560 [1]
CAP Big Piney – Labarge	BP	501.65	200	0
Castle Creek Unit	CC	74.92	10	0
Continental Divide/Wamsutter II	CD	3,701.32	1,768	58,1000 [2]
Creston/Blue Gap	CB	1,272.00	156	5,460 [3]
East LaBarge	EL	22.30	9	0
Essex Mountain	EM	50.67	3	0
Fontenelle Reservoir	FR	414.63	1,017	0
Hickey-Table Mountain EA	HK	79.54	39	0
Jake Morrow Hills CAP EIS	JM	936.82	108	3,480
Jonah II EIS	J2	153.65	285	0
Miscellaneous Wells – East	WE	126.94	15	0
Miscellaneous Wells – West	WW	1,517.28	185	0
Moxa Arch	MA	972.68	1,162	17,066
Pinedale Anticline EIS	PA	798.63	700	26,000
Riley Ridge	RR	541.40	209	0
Sierra Madre	SM	76.68	9	0
South Baggs	SB	214.08	43	2,580 [4]
Stagecoach Draw	SD	150.39	59	0
Vermillion Basin	VB	372.29	56	NO_x Specified
Bridger-Teton DEIS including the following four management areas:				
Hoback Basin	HB	326.36	10	0
Moccasin Basin	MB	234.63	5	0
Union Pass	UP	354.63	10	0
Upper Green River	GR	617.79		

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[1] Compression estimated at 35 hp per well

[2] A total of 70,000 hp was approved, the amount installed was estimated based upon well completion

[3] Compression estimated at 35 hp per well

[4] A total of 3,000 hp was approved, the amount installed was estimated based upon well completion

[5] Compression emissions were specified at 200 tons per year NO_X

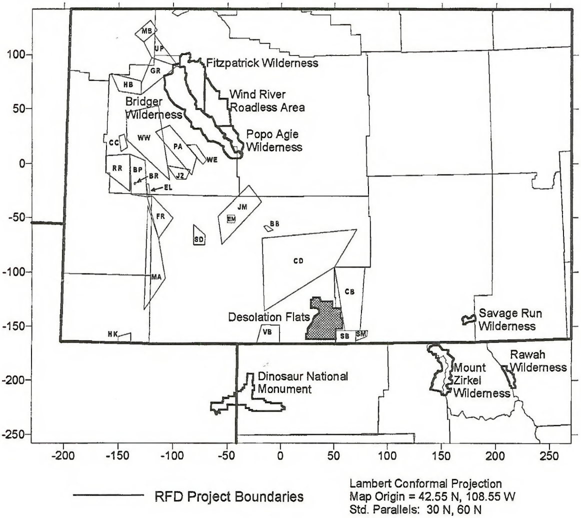


Figure 5-2. Reasonably Foreseeable Development Projects.

The estimated emissions from sources permitted between 1995 to 2001, along with the changes in producing well emissions and future RFD emissions were added to the Desolation Flats emissions to obtain the cumulative emissions inventory (see the Air Quality Technical Report for a more detailed discussion of the emission inventories). Table 5-2 presents a summary of the cumulative emission inventory.

Table 5-2. Cumulative Emission Inventory Summary.

Inventory Category	NO_x (TPY)	SO_x (TPY)	PM_{10} (TPY)
Permitted Emission Increases Post 1995	7,011	4,305	2,110
Permitted Emission Decreases Post 1995 (Excluding Naughton)	(1,777)	(557)	(737)
Naughton Low NO_x Burners	(1,000)		
Regional Gas Wells Post 1995	(13)		
Desolation Flats Project	1,072	12	295
Reasonably Foreseeable Development	1,640		
Cumulative Emissions	6,933	3,760	1,668

5.3.2.2 Cumulative Far-Field Air Quality Impacts

The CALPUFF model was applied to estimate far-field air quality and Air Quality Related Value (AQRV) impacts resulting from cumulative emissions including the Desolation Flats project, state permitted emission sources, producing natural gas wells and approved NEPA actions. Potential impacts on air quality were estimated at PSD Class I and Class II sensitive receptor areas. The analyzed sensitive receptor areas were comprised of:

- Bridger Wilderness (Class I);
- Fitzpatrick Wilderness (Class I);
- Popo Agie Wilderness (Class II);
- Wind River Roadless Area (Class II);
- Dinosaur National Monument (Class II);
- Savage Run Wilderness (Class I);
- Mount Zirkel Wilderness (Class I), and
- Rawah Wilderness (Class I).

The CALPUFF model was used to estimate ambient NO_2, SO_2, and PM_{10} concentrations to evaluate potential cumulative impacts and for comparison with applicable ambient air quality standards and PSD increments. The maximum cumulative impacts from all sources occurred at different sensitive areas depending upon the pollutant under consideration and the applied averaging time. As shown in Tables 5-3 and 5-4, the maximum cumulative impacts from all sources, including Desolation Flats, do not exceed the ambient air quality standards or the PSD Class I increments.

Table 5-3. Comparison of Cumulative Air Quality Impacts with Ambient Air Quality Standards

Pollutant and Averaging Time	Maximum Impact Location	Cumulative Impact (µg/m³)	Monitored Back-ground Level (µg/m³)	Maximum Impact Plus Back-ground (µg/m³)	National Ambient Air Quality Standard (µg/m³)	Wyoming Ambient Air Quality Standard (µg/m³)	Colorado Ambient Air Quality Standard (µg/m³)	Percentage of Most Stringent Ambient Air Quality Standard
NO_2 Annual	Bridger	0.763	3.4	4.16	100	100	100	4%
SO_2 3-hr	Dinosaur	2.886	29	31.886	1,300	1,300	700	5%
SO_2 24-hr	Dinosaur	0.862	18	18.862	365	260	365	7%
SO_2 Annual	Dinosaur	0.014	5	5.014	80	60	80	8%
PM_{10} 24-hr	Rawah	0.105	47	47.11	150	150	150	31%
PM_{10} Annual	Dinosaur	0.004	16	16.00	50	50	50	32%

Table 5-4. Comparison of Cumulative Impacts with PSD Class I Increments

Pollutant	Averaging Time	Total Project Impact (µg/m³)	PSD Class I Increment (µg/m³)	Percentage of Class I Increment (µg/m³)
NO_2	Annual	0.763	2.5	31%
SO_2	3-hr	2.886	25	12%
SO_2	24-hr	0.862	5	17%
SO_2	Annual	0.014	2	0.7%
PM_{10}	24-hr	0.105	8	1.3%
PM_{10}	Annual	0.004	4	0.1%

5.3.2.3 Cumulative Visibility Impacts

The effects of cumulative emissions on visibility at the sensitive receptor areas were evaluated using the IWAQM/FLAG recommended method (see Air Quality Technical Report). In this method, visibility degradation resulting from cumulative source emissions was compared against a background visibility based on the mean of the 20 percent cleanest days from a long-term record of the IMPROVE aerosol monitoring data. The background data were previously described in Section 4.2.3.1.5. There are two thresholds of visibility change which are used for reporting purposes, the number of days in which the deciview change (delta-deciview or Δ dv) is 0.5 or greater and 1.0 or greater. These thresholds were also discussed in Section 4.2.3.1.5.

Table 5-5 presents a summary of the cumulative visibility impact analysis. The analysis indicates that there potentially would be a total of 25 days with greater than 0.5 Δdv and 7 days with greater than 1.0 Δdv. Table 5-6 lists the number of days greater than 0.5 and 1.0 Δdv and the maximum Δdv for each sensitive area. Note that although there are 25 days listed, the impacts exceed the thresholds in several areas on the same calendar day. There are only 14 different calendar days with impacts in any area over 0.5 Δ dv and 6 different calendar days with impacts over 1.0 Δ dv. The greatest number of days greater than 0.5 Δdv occurs at the Bridger Wilderness Area. However, the maximum impact of the Desolation Flats Project alone at the Bridger Wilderness area is only 0.079 Δ dv, and that occurred on a different day (April 16, 1995) than the maximum cumulative impact (April 10, 1995). On April 10, 1995, the day of maximum cumulative visibility impact, the Desolation Flats contribution to the cumulative total Δ dv at the Bridger Wilderness Area is zero Δ dv. On average, for the days in which the visibility impact is greater than 1.0 Δ dv, the Desolation Flats project contribution is less than two percent, and for all days where the impact is greater than 0.5 Δ dv, the average Desolation Flats contribution is five percent. In the absence of the Desolation Flats project, cumulative visibility impacts are reduced by two days with greater than 0.5 Δ dv.

Table 5-5. Summary of Cumulative Visibility Impacts

Sensitive Area	Days Greater Than 0.5 Δ dv	Days Greater Than 1.0 Δ dv	Maximum Δ dv
Bridger Wilderness Area	9	5	2.315
Fitzpatrick Wilderness Area	3	1	1.696
Savage Run Wilderness	2	1	1.377
Popo Agie Wilderness Area	4	0	0.680
Rawah Wilderness	3	0	0.613
Dinosaur National Monument	2	0	0.572
Wind River Roadless Area	1	0	0.826
Mount Zirkel Wilderness	1	0	0.755
Total Visibility Event Days at All Areas	25	7	

Table 5-6. Cumulative Visibility Impacts for All Days Greater Than 0.5 Δ dv

Rank	Sensitive Area	Julian Day	Cumulative Visibility Impact (Δ dv)	Desolation Flats Project Contribution (Δ dv)
1	Bridger Wilderness	100	2.315	0.000
2	Bridger Wilderness	264	1.913	0.000
3	Bridger Wilderness	107	1.794	0.005
4	Fitzpatrick Wilderness	100	1.696	0.000
5	Bridger Wilderness	110	1.442	0.014
6	Savage Run Wilderness	116	1.377	0.115
7	Bridger Wilderness	86	1.334	0.000
8	Bridger Wilderness	85	0.985	0.000
9	Fitzpatrick Wilderness	146	0.873	0.008
10	Wind River Roadless Area	110	0.826	0.015
11	Mount Zirkel Wilderness	116	0.755	0.093
12	Bridger Wilderness	124	0.752	0.004
13	Fitzpatrick Wilderness	124	0.716	0.000
14	Popo Agie Wilderness	146	0.680	0.018
15	Bridger Wilderness	146	0.660	0.016
16	Rawah Wilderness	116	0.613	0.076
17	Rawah Wilderness	113	0.611	0.000
18	Bridger Wilderness	106	0.606	0.079
19	Popo Agie Wilderness	106	0.582	0.073
20	Savage Run Wilderness	263	0.573	0.031
21	Dinosaur National Monument	355	0.572	0.144
22	Dinosaur National Monument	85	0.539	0.003
23	Rawah Wilderness	263	0.536	0.043
24	Popo Agie Wilderness	110	0.532	0.013
25	Popo Agie Wilderness	61	0.512	0.006

5.3.2.4 Cumulative Atmospheric Deposition Impacts

The potential impacts of cumulative emission sources on atmospheric deposition were analyzed using the Fox (1989) method (see Air Quality Technical Report). This method was used to estimate the potential change in acid neutralizing capacity (ANC) at each of 12 sensitive lakes. The cumulative potential impacts resulting from atmospheric deposition are summarized in Table 5-7. The predicted change in sensitive lake ANC levels resulting from cumulative source atmospheric deposition were found to be far below the levels of acceptable change.

Table 5-7. Summary of Potential Cumulative Atmospheric deposition Impacts

Sensitive Lake	Sensitive Area	Monitored Background ANC (μeq/l)	Level of Acceptable Change	Change in ANC (μeq/l)	Percentage of LAC
Black Joe Lake	Bridger Wilderness	69.0	10% (6.9 μeq/l)	0.246	3.56%
Deep Lake	Bridger Wilderness	61.0	10% (6.1 μeq/l)	0.256	4.19%
Hobbs Lake	Bridger Wilderness	68.0	10% (6.8 μeq/l)	0.133	1.95%
Upper Frozen Lake	Bridger Wilderness	5.7	1 μeq/l	0.271	27.1%
Ross Lake	Fitzpatrick Wilderness	61.4	10% (6.1 μeq/l)	0.073	1.19%
Lower Saddlebag	Popo Agie Wilderness	55.5	10% (5.6 μeq/l)	0.292	5.27%
Pothole A-8	Mount Zirkel Wilderness	16.0	1 μeq/l	0.194	19.4%
Seven Lakes	Mount Zirkel Wilderness	35.5	10% (3.6 μeq/l)	0.279	7.85%
Upper Slide Lake	Mount Zirkel Wilderness	24.7	1 μeq/l	0.199	19.9%
West Glacier Lake	Medicine Bow Wilderness	26.1	10% (2.6 μeq/l)	0.377	14.4%
Island Lake	Rawah Wilderness	64.6	10% (6.5 μeq/l)	0.218	3.37%
Rawah #4 Lake	Rawah Wilderness	41.2	10% (4.1 μeq/l)	0.236	5.72%

5.3.2.5 Discussion of Significance

The cumulative impact analysis predicts that the maximum criteria pollutant concentrations will not exceed federal or state ambient air quality standards. In addition, cumulative impacts are predicted to be less than the PSD Class I increments. Potential impacts to sensitive lake ANC are less than the applicable limits of acceptable change. Table 5-8 provides a summary of the cumulative impacts.

Visibility impacts of up to 25 days exceeding the 0.5 Δ dv threshold are predicted as a result of cumulative emissions. However, the presence or absence of the Desolation Flats Project does not significantly change the predicted cumulative visibility impact. On only two of the 25 event days would the absence of Desolation Flats change the visibility impacts to levels below the thresholds, and these are only for days slightly over 0.5 Δ dv. None of the Δ dv days over 1.0 would be changed to below the 1.0 threshold with the absence of the Desolation Flats project. Of the two days that Desolation Flats would contribute to 0.5 Δ dv impacts, one occurs at

Dinosaur National Monument while the second occurs at Rawah Wilderness.

Table 5-8. Cumulative Impacts Summary

Air Quality Component	Potential Impacts
Criteria Pollutant Concentrations	
Ambient Air Quality Standards	Cumulative source concentrations are in compliance with applicable NAAQS, WAAQS and CAAQS • NO_2 concentration 4% of standard • SO_2 concentrations 5 - 8% of standards • PM_{10} concentrations 31 - 32% of standards
PSD Increments	Alternative A Gas Plant and Well Field concentrations are well below applicable PSD Class II increments • NO_2 concentration 31% of increment • SO_2 concentration 0.7 - 17% of increments • PM_{10} concentrations 0.1 - 1.3% of increments
Visibility Impacts	
Number of Days Greater Than 1.0 Δdv	Cumulative source potential visibility impacts are predicted to exceed the USFS/NPS 1.0 Δdv threshold for a total of 7 days • Bridger Wilderness 5 days • Fitzpatrick Wilderness 1 day • Wind River Roadless Area 0 days • Popo Agie Wilderness 0 days • Dinosaur National Monument 0 days • Savage Run Wilderness 1 day • Mount Zirkel Wilderness 0 days • Rawah Wilderness 0 days
Number of Days Greater Than 0.5 Δdv	Cumulative source potential visibility impacts are predicted to exceed the USFS/NPS 0.5 Δdv threshold for a total of 25 days • Bridger Wilderness 9 days • Fitzpatrick Wilderness 3 days • Wind River Roadless Area 1 day • Popo Agie Wilderness 4 days • Dinosaur National Monument 2 days • Savage Run Wilderness 2 days • Mount Zirkel Wilderness 1 day • Rawah Wilderness 3 days

Air Quality Component	Potential Impacts
Atmospheric Deposition Impacts	
Lake Acid Neutralizing Capacity Levels of Acceptable Change (LAC)	Changes in lake ANC resulting from cumulative sources would be range from 1.2% to 19.9% of the LACs, • Black Joe Lake 3.6% of LAC • Deep Lake 4.2% of LAC • Hobbs Lake 2.0% of LAC • Upper Frozen Lake 27.1% of LAC • Ross Lake 1.2% of LAC • Lower Saddlebag Lake 5.3% of LAC • Pothole A-8 Lake 19.4% of LAC • Seven Lakes 7.9% of LAC • Upper Slide Lake 19.9% of LAC • West Glacier Lake 14.4% of LAC • Island Lake 3.4% of LAC • Rawah #4 Lake 5.7% of LAC

5.3.2.6 Update of Cumulative Impacts

Scoping for the Desolation Flats project was initiated in June of 2000, and the previously presented cumulative impact assessment was completed in early 2001. Due to delays in publishing this document, the cumulative impacts analysis may no longer represent expected impacts given current conditions.

The Desolation Flats cumulative impact assessment was conducted utilizing a 1995 through 2000 emissions inventory. Since 1995, numerous air pollutant emission sources have been permitted by the WDEQ-AQD and the development of natural resources, including petroleum, natural gas and coal, has continued throughout the state. However, despite this continued development, current monitoring data suggest that visibility conditions and lake chemistry within the region have remained relatively stable, neither improving nor degrading significantly. Current monitoring data have not detected the cumulative visibility impacts predicted in this analysis.

A number of new development projects have been proposed within southwestern Wyoming since the completion of this analysis in 2001. In part, these new development projects include: Powder River Basin Oil and Gas Project, South Piney Natural Gas Development, Jonah Field Infill Drilling, Atlantic Rim CBM, Seminoe Road Gas Development, Wind River Natural Gas Development, Big Porcupine CBM, Copper Ridge Shallow Gas Development, Little Monument Infill Drilling, and the Pacific Rim Shallow Gas Development. Cumulative impacts that may result from all of these new development projects have yet to be determined.

The Powder River Basin Oil and Gas Project Final EIS published in January 2003 may provide more current estimates of cumulative impacts. Other air quality impacts analyses for the southwestern Wyoming region are underway, but are not yet available to the public. Preliminary results suggest that predicted potential cumulative impacts to visibility and atmospheric deposition may exceed significance criteria, although violations of Wyoming or federal pollutant concentration standards are unlikely. BLM expects that several environmental impact statements will be available to the public in the summer or fall of 2004. The following future documents may provide more timely estimates of potential cumulative impacts in the region.

- South Piney Natural Gas Development Project EIS: Contact project lead Carol Kruse at Carol _Kruse @blm.gov
- Jonah Infill Drilling Project EIS: Contact project lead Carol Kruse at Carol _Kruse @blm.gov
- Atlantic Rim Coalbed Methane Project EIS: Contact project lead David Simons at David _Simons@blm.gov
- Seminoe Road Gas Development Project EIS: Contact project lead David Simons at David_Simons@blm.gov
- Wind River Natural Gas Development Project EIS: Contact Ramon Nation, BIA - Wind River Agency.

CHAPTER 6: CONSULTATION AND COORDINATION

There were no changes to Chapter 6 text.

REFERENCES CITED

Page R-1, Add the following references to the DEIS References Cited section:

Belnap, J. K., J. Hilty, R. Rosentreter, J. Williams, S. Leonard, and D. Eldridge. 2001. Biological soil crusts: ecology and management. USDI-BLM Tech. Ref. 1730-2, Denver, CO.

IMPROVE - Interagency Monitoring of Protected Visual Environments. 2003. Annual Trends (5 Year Rolling Average) Annual Group 10, 50, 90 averages of reconstructed light extinction and the light scattering of the major aerosol types (April 30, 2003). Http://vista.circa.colostate.edu

U. S. Environmental Protection Agency. 1988. Control of Open Fugitive Dust Sources. EPA-450/3-88-008. Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina. September 1988.

U.S. Environmental Protection Agency, 2002. Air Toxics Database. Dose-Response Assessment for Assessing Health Risks Associated with Exposures to Hazardous Air Pollutants, Table 2 - Acute Dose-Response Values (12/02/2002). Office of Air Quality and Planning Standards.

U.S. Environmental Protection Agency, 2003. Air Toxics Database. Dose-Response Assessment for Assessing Health Risks Associated with Exposures to Hazardous Air Pollutants, Table 1 - Prioritized Dose-Response Values (10/28/2003). Office of Air Quality and Planning Standards.

SECTION 2: ADDENDUM AND ERRATA

GLOSSARY

There were no changes to Glossary text.

APPENDIX A: Criteria for Meeting "Acceptable Plan" in Oil and Gas Lease Terms, Desolation Flats Natural Gas Project

There were no changes to Appendix A text.

APPENDIX B: Standard Mitigation Guidelines

There were no changes to Appendix B text.

APPENDIX C: Reclamation Plan

There were no changes to Appendix C text.

APPENDIX D: Hazardous Materials Management Plan

There were no changes to Appendix D text.

APPENDIX E: Classification of Surface Drainages and Reservoirs/Springs According to NWI Maps

WYNDD Correspondence Regarding Sensitive Plant Species

There were no changes to Appendix E text.

APPENDIX F: Wildlife and Fish Species List

U.S. Fish and Wildlife Service Letter

There were no changes to Appendix F text.

APPENDIX G: Wildlife Resources – Locations and Types within the DFPA

There were no changes to Appendix G text.

APPENDIX H: Wildlife Monitoring/Protection Plan

There were no changes to Appendix H text.

APPENDIX I: Biological Assessment of Threatened, Endangered, and Proposed Species

Page I-14, delete 4th paragraph, starting with "Average annual water ..."

Page I-15 under section 4.2.2 Fish Species, change to read the same as the paragraph in section 2.2.3.3 Colorado Pikeminnow, Bony ...

Page I19, add the following mitigation measure under section 6.2 Fish Species:

> "Water used for well drilling operations would be obtained from an SEO-approved water well that is non-tributary to the Colorado River System."

SECTION 3:

CONSULTATION AND COORDINATION

SECTION 3: CONSULTATION AND COORDINATION

3.1 SCOPING PROCESS

The BLM published a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) in the Federal Register on May 18, 2000.

A Scoping Notice was prepared and submitted to the public by the BLM on May 24, 2000, requesting input to the proposed Desolation Flats Natural Gas Field Development project. Scoping documents were sent out to the public listed on the BLM mailing list, as well as organizations, groups, and individuals requesting a copy of the scoping document. The Scoping Notice explained the scope of the Desolation Flats Operator's Proposed Action and requested comments concerning the level of analysis included in the DEIS. The public was given until July 23, 2000 to comment. All comments received were incorporated into the analysis of issues identified in the DEIS (pages 1-19, 1-22, and 1-23). There were 181 written responses received during the scoping period in response to this project.

During preparation of the EIS, the BLM and the consultant interdisciplinary team (IDT) have communicated with, and received or solicited input from various federal, State, county, and local agencies, elected representatives, environmental and citizens groups, industries, and individuals potentially concerned with issues regarding the proposed drilling action. The contacts made are summarized in the following sections.

3.2 DRAFT EIS CONSULTATION AND COORDINATION

The BLM consulted with the Department of Interior U.S. Fish and Wildlife Service and the Wyoming Game and Fish Department on issues, impacts and mitigation for Mountain Plover, Black-footed Ferret, and other wildlife populations and habitats; and consulted with the Department of Environmental Protection Agency, the U.S. Forest Service and Wyoming Department of Environmental Quality on issues, impacts and mitigation for air quality and water quality. The BLM has also consulted and coordinated with local, state, and county government officials. Native American Indian tribes were provided notices of the proposed project during scoping and through affirmative contact by mail in early 2004. Mailings in 2004 requested comment and input to the proposal, however none was received.

3.3 PUBLIC REVIEW OF DRAFT EIS

The Environmental Protection Agency's Notice of Availability was published in the *Federal Register* on May 2, 2003. Over 250 copies of the draft EIS were made available to the public and interested agencies for a 60-day public comment period. The date by which the comments were to be received was July 23, 1999. The public was invited to provide written comments on the draft EIS. Public meetings were conducted by the BLM on June 5, 2003 at the Rock Springs Field Office in Rock Springs, Wyoming, and on June 4, 2003 at the Rawlins Field Office in Rawlins, Wyoming. The meeting in Rock Springs was attended by 16 persons and the meeting in Rawlins was attended by 31 persons.

All of the comments received during the public comment period and during the public meeting have been considered in the preparation of the final EIS. Responses to all the comments expressed during the public meeting can be found in FEIS Section 5 entitled *Response to Public Comments on the Draft EIS*

3.4 DRAFT EIS COMMENTS

A total of 181 comment letters were received on the draft EIS. Responses to public comments received on the draft EIS are included in this final EIS. In many cases respondents submitted virtually identical comments. Rather than repeating a response, the reader may be referred to an earlier response. Reference to a previous response in no way reflects upon the value of the comment. The comment letters and responses to the comments are contained in Section 5 entitled *Response Comments* following the reprinted letters. Comments are numbered sequentially within a letter and correspond to the numbered response.

Specific changes in the text of the draft EIS are found in Section 2 of the final EIS. Where a response to a comment indicates "see Errata", Section 2 of the final EIS should be consulted for the specific rewording or clarification of the text.

3.5 COMMON CONCERNS

Respondents shared several common concerns about the proposed drilling project. The concerns were:

- Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.
- Protect all lands within the Adobe Town citizen's proposed WSA.
- Adopt a Conservation Alternative in the FEIS
- Mandate the least environmentally damaging types of drilling.
- The Desolation Flats project exceeds the reasonably foreseeable development scenario from the Great Divide Resource Management Plan.
- Illegal deferral of analysis to subsequent stage of development
- Failure to address the cumulative actions of Oil and Gas Development in the Greater Green River Basin.
- Cultural resource impacts including historic trails, native American involvement, and the extent of existing surveys within the DFPA area,
- Air quality data used in the Draft EIS was outdated for the far field impact analysis.

SECTION 3: CONSULTATION AND COORDINATION

Comments were received to the Desolation Flats draft EIS included interested State and Federal agencies, advocacy organizations, the public, and oil and gas advocacy groups and companies. Comments in the form of pre-printed postcards were received from apparent members of the public and raised issues 1 through 4 below. These themes were also raised in comments received from advocacy groups. Comments from such groups were much more detailed than the postcard comments. BLM prepared detailed responses to each commenter's issues and concerns. Comments were carefully reviewed for items to correct or add to the final environmental impact statement.

1. *"Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats."*

It is the BLM's intent to avoid drilling in environmental sensitive areas as much as it can. Withdrawing lands from leasing is outside the scope of the Desolation Flats EIS process, and cannot properly be considered in this forum. The Adobe Town wilderness study (ATWSA) area is outside but adjacent to the Desolation Flats project area (DFPA). Lands believed to be of wilderness quality are located within the DFPA, and are being considered for inclusion with the ATWSA in the Rawlins Resource Management Plan (RMP) as detailed on page 2-42 and 2-43 of the Draft Environmental Impact Statement (DEIS). As detailed on page 2-43 of the DEIS if proposed development activities are found to potentially impair wilderness values within those areas, the application would be denied pending the outcome of the RMP review process.

The BLM does not have a "roadless lands" category in its land management scheme, but as detailed on page 2-9, any roads will be located to minimize disturbance and maximize transportation efficiency.

While all habitats within the DFPA are considered important habitat to one degree or another, habitats occupied by, or potentially occupied by threatened, endangered, or sensitive species (TES) often have occupancy constraints including avoidance where possible and surveys and mitigations to avoid serious impacts.

2. *"Protect all lands within the Adobe Town citizen's proposed WSA."*

As detailed above some lands within the ATWSA have been observed to have wilderness characteristics. Development activities within those areas will be denied until such time as a decision is made under the RMP revision process to include or exclude those lands from the ATWSA. Some lands within the citizen's proposed WSA have been found not to have wilderness quality. Proposed development activities within those areas, if any occur, will be considered and may be approved.

3. *"Adopt a Conservation Alternative in the FEIS."*

The Desolation Flats EIS contains three alternatives as detailed within the EIS. None of these alternatives are labeled as a "conservation" alternative per se, but each of them assess different levels of development and environmental impacts. Mitigation and monitoring measures to ensure proper protection for the area's special values are found in Chapter 2, at section 2.5.2.11, and in Chapter 4 in sections labeled "Additional Mitigation Measures".

4. *Mandate the least environmentally damaging types of drilling.*

Chapter 2, page 2-43 to 2-44 Section 2.6 of the DEIS entitled "Alternatives Considered but Eliminated From Detailed Study" has details on why mandating directional drilling is not an alternative considered in detail.

5. *The Desolation Flats project exceeds the reasonably foreseeable development scenario from the Great Divide Resource Management Plan.*

The Reasonably Foreseeable Development (RFD) scenario, does not represent a planning decision, rather it is an assumption to analyze the effects that discretionary management decisions have on oil and gas activity. The Great Divide RMP and the oil and gas RFD scenario recognizes development on two levels; 1) number of wells permitted and 2) amount of surface disturbance associated with development. 1,440 wells you mention was just one of the assumptions used, along with other data to determine the effects of oil and gas development. The number of wells permitted is one RFD reference point, the number of surface acres disturbed per well represents another. Surpassing one of these points does not necessarily mean additional development cannot occur. One consideration is the extent of disturbance per well has reduced steadily over the planning period resulting in less disturbance impacts than anticipated per well. Should the number of wells and the level of surface disturbance exceed those analyzed in the Great Divide RMP, BLM would re-examine the RMP assumptions and compare them to actual on-the-ground impacts to determine if further oil and gas exploration and development is an appropriate action.

6. *Deferral of analysis to subsequent stage of development.*

At this time the location of all future well sites and other disturbance cannot be determined with 100% accuracy by any process the proponents or BLM are aware of. "Setting in stone" well locations in the EIS would require predicting well locations with information in hand, and ignoring the fact that each well provides additional information that is utilized to help determine future actions, including the number of wells and well site locations. Currently, generalized areas of interest are being explored through the interim drilling process to further develop our knowledge of the geology and potential of the DFPA. Adaptive management of oil and gas resource development is very much a reality in that new information produces more effective drilling programs with correspondingly reduced effects upon the environment. The number of wells, well locations, timing of drilling, and construction is controlled in part by the location of gas and oil resources as they are found and developed, within the context of BLM's responsibility to ensure surface disturbance is managed in accordance with both the law and sound resource management.

The DFPA is not a project level document, it is a programmatic document. Site-specific impacts will be thoroughly reviewed under the NEPA regulations by tiering site specific environmental analysis to the Desolation Flats Record of Decision (ROD). The regulations for implementing the procedural provisions of the National Environmental Policy Act, issued by the Council on Environmental Quality are found in 40 CFR Parts 1500-1508. 40 CFR 1502.2 States:

> *"Agencies are encouraged to tier their environmental impacts statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (1508.28). Whenever a broad environmental impact statement has been prepared (such as a program or policy statement) and a subsequent statement or environmental assessment is then prepared on an action included within the*

> *entire program or policy (such as a site specific action) the subsequent statement or environmental assessment need only summarize the issues discussed in the broader statement by reference and shall concentrate on the issues specific to the subsequent action. The subsequent document shall state where the earlier document is available. Tiering may also be appropriate for different stages of actions. (40 CFR 1508.28)"*

The tiered EIS approach used with DFPA is consistent with the CEQ regulations found in 40 CFR. Section 1508.28 states in part:

> *"Tiering is appropriate when the sequence of statements or analyses is:*
> *(a) From a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.*

The BLM NEPA Handbook (H1790-1) states in part, in Chapter III, C.:

> *1. Purpose and Use of Tiering (40CFR 1508.28) Tiering is used to prepare new, more specific or more narrow environmental documents (e.g., activity plan EA's) without duplicating relevant parts of previously prepared, more general or more narrow environmental documents (e.g. RMP/EIS's)."*

The tiered approach used with DFPA is consistent with BLM agency direction including the NEPA Handbook.

7. *Impacts of cumulative actions of oil and gas development in the Greater Green River Basin.*

As detailed in Chapter 5 "Cumulative Impacts Analysis", potential cumulative impacts are assessed at the resource level in the DEIS. Cumulative impacts area (CIA) varies for each resource area assessed. Addressing the cumulative actions of oil and gas development in the entire Greater Green River Basin which encompasses lands in three states is outside the scope of this assessment.

8. *Cultural resource impacts including historic trails, native American involvement, and the extent of existing surveys within the DFPA area.*

Under the proposed action it is anticipated that 385 oil and gas wells would be drilled (592 for the alternative a), disturbing about 2,029 acres of land (including all related facilities and pipelines) (3,193 acres for alternative a). Standard inventory and recordation procedures conducted in conjunction with actions would protect most cultural resources from significant damage and would increase the database of known cultural properties.

Construction activities resulting from minerals actions that disturb the ground surface and subsurface would have the potential to directly impact cultural resources not identified prior to the activity. Unanticipated subsurface discoveries (cultural resources found during and not prior to ground disturbing activities) would potentially occur from well location, road, and pipeline construction in culturally sensitive areas. Impacts to cultural resources identified in a discovery situation are greater than impacts to resources that were previously identified (and thereby avoided or subjected to mitigation measures) because damage to discovered sites occurs prior to their recordation and evaluation, thereby complicating mitigation procedures. Unanticipated discoveries result in the loss of some or occasionally all of the cultural resource involved. However, mitigation of impacts to discoveries is often accomplished through data recovery excavations that increase our understanding of prehistory.

Areas within ¼ mile of cultural resources eligible to the NRHP under Criteria A, B, or C would be subject to avoidance for all ground disturbing activities. This will ensure the protection of those sites from activities that may compromise the values for which they are eligible.

The visual setting (viewshed) of cultural resources eligible to the NRHP under Criteria A, B, or C would be managed to mitigate adverse visual impacts to a distance of two miles or the visual horizon, for actions which do not exceed 20 feet in height. Development projects that are greater than 20 feet in height would be evaluated on a case-by-case basis to determine the visual impacts greater than two miles. This will ensure the protection of those sites from activities that may compromise the values for which they are eligible.

As many areas surrounding the Cherokee Trail have been leased for mineral exploration at this time, there is no way to legally preclude development within five miles of the Cherokee Trail. Surface disturbances within two miles of the Cherokee Trail are assessed to determine what visual impacts they may have on the trail. In areas where development has already occurred, the viewshed has been previously compromised and there is no reason to preclude surface disturbing activities in these areas. Extensive visibility analyses have determined that the two mile viewshed is a reasonable distance to assess visual impacts to historic trails from oil and gas development activities. Surface disturbing activities located within two miles of the historic trail would have special mitigation requirements before being permitted to ensure the least amount of visual intrusion.

9. Air quality data used in the Draft EIS was outdated for the far field impact analysis.

In response to comments received concerning air quality impacts with implementation of the Desolation Flats Natural Gas Field Development Project and other projects, *Buys and Associates* prepared a Revised Air Quality Impact Assessment Technical Support Document (USDI-BLM 2004b), and the BLM revised the air quality sections of the draft EIS. Changes to the air quality sections are provided in Section 2, Addendum and Errata of this FEIS. The revised air quality technical support document is available for review at the Rawlins Field Office iRawlins, Wyoming, or on the BLM website **at www.wy.blm.gov**.

SECTION 4:

COMMENT LETTERS RECEIVED ON THE DRAFT EIS

LETTER 1

GENE R. GEORGE & ASSOCIATES, INC.
Petroleum Geology, Engineering, Hydrogeology, Regulatory Permitting

111 West Second Street, Suite #400
P.O. Box 2775
Casper, WY 82602

Phone: 307-265-9199
Fax: 307-473-7138
Web: www.gga-inc.com

RECEIVED
JUN 17 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

June 16, 2003

Department of Interior
Bureau of Land Management
John Spehar, Project Coordinator
P.O. Box 2407
Rawlins, Wyoming 82301

Re: Comments: Draft Environmental Impact Statement, Desolation Flats Natural Gas Development Project

Dear Mr. Spehar:

The following Comments are made on behalf of Yates Petroleum Corporation (Yates) as a leaseholder and participant in the referenced document and area. Yates appreciates the opportunity to comment on this document and on the environmental analysis of the proposed action and alternatives. Yates supports the proposed action. Current activity in the project area is limited but with higher natural gas prices and the demand for clean-burning natural gas for electrical generation, the Desolation Flats project area (DFPA) will certainly be held with increased interest by the energy companies.

The Energy Industry has consistently proven that it can come into a remote area, extract the resource and leave with little or no impact. As a case in point, the Jack Morrow Hills CAP area where the special interest, non-locally funded, groups claim that the area is pristine and they do now want any oil and gas activity, has 40 producing gas wells and 113 dry holes drilled within the CAP boundary. The Energy Industry has done such a good job that these special interest groups still consider it pristine. It is important to add that oil and gas activity is a relatively short-term activity. Essentially, all of the oil and gas disturbance will ultimately be reclaimed and left wild and scenic as before and the destination of choice of travelers from all over the world.

Page 2-38, Wildlife, This is the section referred to as the "operator committed mitigations" in the text but is not included in the section titles. These are primarily standard BLM requirements that have been proven through out the State of Wyoming that are fully protective of all resources. It should be noted that under the Wildlife Section that many of the mitigations may be waived by the Authorized Officer as the circumstances warrant. 1

Page 2-39 last bullet on the page. This should be rewritten to state: "To protect migratory birds and wildlife in general, all reserve *and temporary workover* pits that contain *materials potentially hazardous to wildlife would be fenced and that other pits and areas that contain materials potentially hazardous to wildlife would possibly be both netted and fenced*, in accordance with BLM requirements. Essentially, reserve pits and workover pits only contain RCRA exempt materials and not "hazardous wastes". 2

Page 3-39, 3.4.2.3 Waters of the US, It might aid to reference the COE General Permit 98-08 which considers and allows most oil and gas disturbances. 3

Page 4-119, Figure 4-15, It appears that the Federal Mineral Royalties block in the diagram representing $1,609,000 is equal to the line representing $1,500,000. 4

Page 5-11, 5.3.2.3 Cumulative Visibility Impacts, The CalPuff model, using the IWAQM/FLAG method, is extremely conservative. Only a model can calculate a 1/2dv change. To a human's eye, a one-half of a perceptible change in visibility is impossible by definition. Yates applauds the conclusion that it is background rather that the DF project that affects nearly all of the modeled changes. 5

Page 5-25 5.3.10 Visual Resources, The analysis of determining that a few "viewers" would be dissatisfied is short sighted. The oil and gas activity is short term relative to Wyoming's history. All of the oil and gas activity will be reclaimed and the viewshed will become "historical" within a lifetime. 6

Page H-5, Table H-2, Yates applauds this type of monitoring. Yates is extremely interested in the actual (not the perceived) impact of its oil and gas activity. Yates participates in this same type of monitoring and mitigation elsewhere on BLM lands and it is working well. 7

Yates Petroleum Corporation believes that the Draft EIS for Desolation Flats is an outstanding document and that the NEPA process should proceed smoothly toward initiating the Proposed Action. Yates is grateful for the opportunity to comment on this document.

Sincerely,

Gene R. George, Wyoming Regulatory Issues Agent for Yates Petroleum Corporation

Copies: Senators Mike Enzi and Craig Thomas and Representative Barbara Cubin
Robert A. Bennett, BLM State Director
Janet Richardson and Lisa Norton, Yates Petroleum Corporation

LETTER 2

ted kerasote
<tkerasot@wyoming.com>
06/19/03 09:12 PM

To: DesFlats_WYMail@blm.gov
cc:
Subject: to John Spehar, project coordinator

Dear John:

Many people who will write you letters about the Desolation Flats Project Area will have never been there. I have--many times--camping, hiking, driving through, scouting for deer and antelope. Wyoming is currently being hammered by oil and gas development, under enormous pressure from the federal government to achieve "national energy security." However, I don't like seeing my state trashed for this ephemeral goal, an unachievable one since only three percent of the world's oil and gas underlies U.S. soils. 1

I'd like to see Desolation Flats protected, but knowing that will nver happen, I'm imploring you to see that energy development is minimzed and what is done is done with an eye to protecting wildlife habitat. I don't have to go into the details about what that means. You know what it means. How about seeing for once that wildlife gets a fair shake instead of being analyzed to death under an adaptive management strategy while oil and gas wells sprout willy nilly.

Sincerely,
Ted Kerasote
Box 100
Kelly, Wyoming 83011

LETTER 3

Dava Kelser
<dkelser@rmisp.com>
06/21/03 08:11 PM

To: DesFlats_WYMail@blm.gov
cc:
Subject: Opposition to draft plan to open Desert Flats to oil drilling

Dear John Spehar:

I am writing this letter to you today as a concerned Wyoming citizen to voice my opposition to the BLM's planned development of the Desert Flats areas for oil exploration.

I believe The BLM preferred plan does not go into the detail needed to provide for a sufficient analysis of the impacts of the project. For instance, the DEIS states that there will be 385 wells drilled and about 500 miles of new roads constructed under the preferred plan, but does not identify the locations of either the wells or the roads. Without these crucial details, impacts to wildlife, recreation, and visual quality of the area cannot be accurately described.

Additionally, The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, and wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests. 1

In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Areas.as I understand it, the FEIS does not have a true 'no action' alternative, and at the least, the plan needs to include language to allow mitigation and monitoring measures to ensure proper protection for the area's special values.

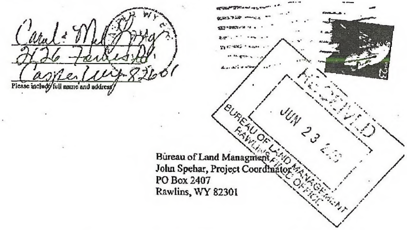
Again, I voice my opposition to the proposed gas development of the Desert Falts area and I wish the BLM would reconsider its stance on the issue.

Sincerely,

Dave Kelser
Box 1782
Lander, WY 82520

Right now

LETTER 4



Carol & Mel Long
2126 Forbes Rd
Casper Wyo 82601
Please include full name and address

RECEIVED
JUN 23 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

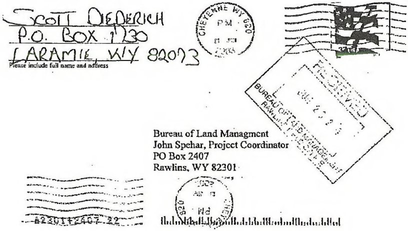
Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wildnerness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
- **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Signature: Carol Long, Melvin Long

LETTER 5



Scott Diederich
P.O. Box 1230
Laramie, WY 82073
Please include full name and address

RECEIVED
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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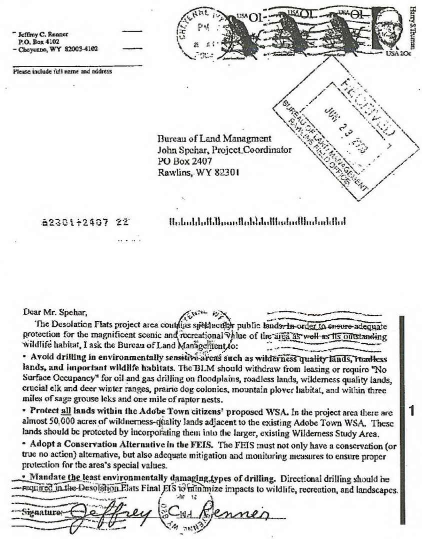
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

I am in complete agreement with this statement

Signature: Scott D. Diederich

LETTER 6



Jeffrey C. Renner
P.O. Box 4102
Cheyenne, WY 82003-4102

Please include full name and address

Harry S. Truman

RECEIVED
JUN 23 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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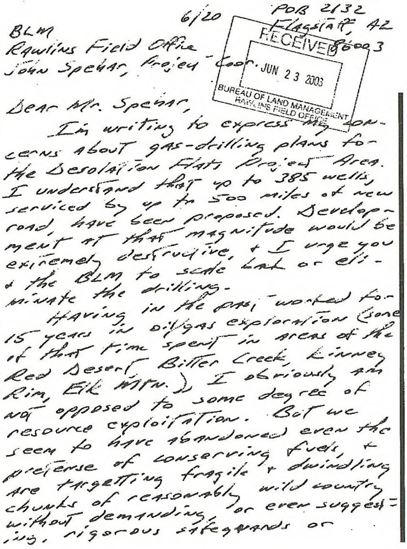
Signature: Jeffrey C. Renner

LETTER 7



John Wahl
POB 2132
Flagstaff, AZ
86003

6/20

BLM
Rawlins Field Office
John Spehar, Project Coor.

RECEIVED
JUN 23 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Dear Mr. Spehar,

I'm writing to express my con-
cerns about gas-drilling plans for
the Desolation Flats Project Area.
I understand that up to 385 wells,
serviced by up to 500 miles of new
road, have been proposed. Develop-
ment at that magnitude would be
extremely destructive, & I urge you
& the BLM to scale back or eli-
minate the drilling. 1

Having in the past worked for
15 years in oil/gas exploration (some
of that time spent in areas of the
Red Desert, Bitter Creek, Kinney
Rim, Elk Mtn.), I obviously am
not opposed to some degree of
resource exploitation. But we
seem to have abandoned even the
pretense of conserving fuels, &
are targetting fragile & dwindling
chunks of reasonably wild country
without demanding, or even suggest-
ing, rigorous safeguards or

② protective exemptions.

Please do everything in your power to insure that:

A Leases are not granted in sensitive areas, + all decisions take into account the potential cumulative impact of full development of all leases.

B Directional drilling is used to the greatest possible degree, if + when leases are granted or explored.

C The Adobe Town WSA, + citizen proposed additions to it, be kept off-limits to drilling, pipelines etc. (+ new or upgraded roads). 1

D Wildlife + habitat values trump natural gas potential.

E All new roads kept to minimal standards + closed to public use (and reclaimed to the degree possible when wells are exhausted).

F Noise, dust + night lighting be strictly controlled.

Thanks for your time, + for the opportunity to comment.

LETTER 8

Omahoneylawyer@aol.com
06/23/03 08:27 AM

To: DesFlats_WYMail@blm.gov
cc: woc@wyomingoutdoorcouncil.org
Subject: Desolation Flats Project Area

John Spehar, Project Coordinator:
Bureau of Land Management
Rawling Field Office

Dear Mr. Spehar:

I am writing to you in behalf of the preservation of the Red Desert against the unconscionable actions of the Bush administration.

As you know, just south of Wamsutter and west of Baggs lies the "Desolation Flats Project Area" - so named by the Bureau of Land Management. In fact, this 230,000-acre area of Wyoming's Red Desert is anything but desolate. On its western & northern boundaries it overlaps a portion of the citizens' proposed expansions to the Adobe Town Wilderness Study Area (WSA) - possibly the most spectacular set of badlands and geological formations in the entire state of Wyoming. It is just as wild, remote, and pristine today as it was when Butch Cassidy and his gang roamed there in the 1800's. Throughout, the area boasts magnificent scenery - like the eroded badlands of Prehistoric Rim and the rugged canyons of Sand Creek and Willow Creek - wild horses, outstanding sage grouse and mountain plover habitat as well as crucial winter ranges for deer, pronghorn antelope, and elk. In addition, there has been a recent wolf sighting near the area - the animal was possibly migrating from the north into Colorado.

I ask that you recommend and implement the following policies:

1. **Prohibit drilling in environmentally sensitive such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, and wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.

2. **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Areas. 1

3. **Provide a sufficient analysis of the impacts of the proposed project.** The BLM preferred plan does not go into the detail needed to provide for a sufficient analysis of the impacts of the project. For instance, the DEIS states that there will be 385 wells drilled and about 500 miles of new roads constructed under the preferred plan, but does not identify the locations of either the wells or the roads. Without these

crucial details, impacts to wildlife, recreation, and visual quality of the area cannot be accurately described.

4. Adopt a Conservation Alternative in the FEIS. The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.

5. Mandate the least environmentally damaging types of drilling. Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Thank you for your efforts to preserve Wyoming's wilderness areas rather than handing them over to the modern robber barons that would benefit from the Bush administration's destructive and deplorable policies.

Denis A. O'Mahoney, Esq.
Corona del Mar, CA
formerly of Worland and Cheyenne

LETTER 9

"Ted Zukoski" <tzukoski@earthjustice.org>
06/23/03 09:37 AM

To: <DesFlats_WYMail@blm.gov>
cc:
Subject: Desolation Flats EIS

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Re: Protect Red Desert

Dear Mr. Spehar:

Please accept these comments on the Desolation Flats project, which could degrade the wild Red Desert.

I request that BLM adopt a conservation alternative in its EIS. Such a plan should:

* Prohibit drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats. Th BLM should withdraw from leasing or require "No Surface Occupancy" for oil an gas drilling on floodplains, roadless lands, and wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
* Protect all lands within the Adobe Town citizens' proposed wilderness. In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town Wilderness Study Area. These lands should be protected by incorporating them into the larger, existing WSA.
* Provide a sufficient analysis of the impacts of the proposed project. The BLM has not given the public the detail needed to provide for a sufficient analysis of the impacts of the project. For instance, the agency states that there will be 385 wells drilled and about 500 miles of new roads constructed in the project, but does not identify the locations of either the wells or the roads. Without these crucial details, impacts to wildlife, recreation, and visual quality of the area cannot be accurately analyzed. 1
* Mandate the least environmentally damaging types of drilling. Directional drilling should be required in the proposed Desolation Flats project to reduce impacts to wildlife, recreation, and landscapes.
The proposed action could degrade the Adobe Town Wilderness Study Area (WSA) possibly the most spectacular set of badlands and geological formations in th entire state of Wyoming. It is just as wild, remote, and pristine today as it was when Butch Cassidy and his gang roamed there in the 1800's. The area boasts magnificent scenery, like the eroded badlands of Prehistoric Rim and the rugged canyons of Sand Creek and Willow Creek. It also provides habitat t wild horses, sage grouse and mountain plovers, along with crucial winter ranges for deer, pronghorn antelope, and elk.
This area merits protection. As a Coloradan who visits southern Wyoming regularly to enjoy the awesome scenery and wildlife in southern Wyoming, I have a personal stake in protecting my public lands.

E.B. Zukoski
1105 Ithaca Drive
Boulder CO 80305-6329

LETTER 10

Linda J. Cooper
P.O. Box 121
Bondurant, WY 82922
licinwy@wyoming.com
307-859-8455

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
P.O. Box 2407
Rawlins, WY 82301

June 23, 2003

Red Desert area: "Desolation Flats Project Area"

Dear Sir,

At first I was very concerned and confused about the Desolation Flats Area that is proposed for more energy development. I researched where this area actually was located and was shocked to learn that it was a spectacularly beautiful portion of the the Red Desert and even more shocking, that it apparently overlapped with the citizen proposal to expand the Adobe Town Wilderness Study Area. Now I respond with anger!

It seems as though the BLM is routinely ignoring the values of this area, not resolving citizen "compromises" placed on the table to introduce some semblance of conservation into what otherwise would be the rape of important Wyoming lands.

After all that is said, and you know how I feel about this matter, let me say that where
lands have the same qualities as those already designated wilderness lands, they ought
to be treated as such. In other words if it walks like a duck, and it quacks like a duck...it is
a duck. If these lands are now non-industrial, have historic value, are roadless, have
sensitive environmental values and habitat that supports the same wildlife, birds and 1
ecosystem features that other protected lands do, then the BLM has an obligation not
only to set these lands aside by incorporating them into the Wilderness Study Area, but a
moral and legal obligation not to distort the will of the citizens who seek to rationalize a
proposal they find inappropriate and to do the best job it can to conduct an impact
analysis that actually focuses where the impacts might be. It appears as though the BLM
didn't do this!

I believe that under EIS requirements the BLM has to develop other alternatives including conservation or no action alternative, mitigation strategies etc. After all when BLM proposes 500 miles of new roads and doesn't identify where a specific number of wells are going to be then it can and should be faulted for its work! You ought to tell the public where the drilling for 385 wells would be and specify what kind of drilling would be the best suited to mitigate impacts and permit conservation values to be upheld.

Removal of portions of lands otherwise targeted for development is not a crime. I think this might be reasonable to consider. Developing where the lands are less sensitive, is advisable, and just because certain companies want what they want where they want it, doesn't mean that the agency in charge has to buy in lock stock and barrel. If BLM, who exists to "manage" resources on behalf of the public who owns the lands, I might remind the BLM to make sure that lands inappropriate to develop are not developed, and those that are, are done so with the best possible practices, and use of technology. Without such balance the BLM invites the kind of comments and challenges it gets!

It seems as though those of us who see the Wyoming energy development as nothing
more than the rape and ruin of Wyoming for near term and very short-run benefit of gas 1
producers and then also have to comment on BLM proposals such as this one, are
insulted by BLM as much as the environment is assaulted. The final EIS that you must
prepare, and prepare adequately, I might add, must minimize the risks to wildlife,
landscape, habitat and recreation. I encourage you to do what is necessary and required
of you in this process. My comments are written in anger and frustration that BLM does
not do a better job and routinely ignores the stewardship responsibilities it has as a
government agency.

Very truly yours,

Linda J. Cooper

LETTER 11

Buck Tilton
<btilton@wyoming.com>
06/23/03 07:07 PM
Please respond to btilton

To: DesFlats_WYMail@blm.gov
cc:
Subject: Desolation Flats

Please allow the Desolation Flats Area to remain natural and unharmed by human impact. It is a terrible thing to consider its wildness and beauty lost, or even permanently scarred. Thank you. 1

--
****
Buck Tilton
735 Cedar Street
Lander, WY 82520
Phone 307-335-7119
btilton@wyoming.com

LETTER 12

"Constance S. Brizuela"
<Hanuman@uwyo.edu>
06/23/03 03:14 PM

To: DesFlats_WYMail@blm.gov
cc:
Subject: "Desolation Flats" Comments

Dear BLM,

As a third generation and lifetime Wyoming resident, I resent the exploitation and destruction of our beautiful state as if we were a third world country. Please, limit the wells, road construction, power lines and pipelines in your project as follows:

* **Prohibit drilling in environmentally sensitive such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, and wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.

* **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Areas.

* **Provide a sufficient analysis of the impacts of the proposed project.** The BLM preferred plan does not go into 1
the detail needed to provide for a sufficient analysis of the impacts of the project. For instance, the DEIS states that there will be 385 wells drilled and about 500 miles of new roads constructed under the preferred plan, but does not identify the locations of either the wells or the roads. Without these crucial details, impacts to wildlife, recreation, and visual quality of the area cannot be accurately described.

* **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.

* **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Sincerely,
Constance S. Brizuela, Ph.D.

LETTER 13

03/04/09

John Spehar

RECEIVED
JUN 23 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Kurt Kotter
Field Manager
Rawlins RMP/EIS
BLM Rawlins Field Office
Post Office Box 2407
Rawlins, Wyoming
82301-2407 United States of America

Dear Mr. Kotter: Noted KK 6/23/03

In response to the BLM's request for comments on the scope of the environmental impact statement being prepared in support of the revised land use plan for the Great Divide area, I urge you to fully consider, analyze, and adopt the Western Heritage Alternative as the plan to guide the Great Divide's future.

The Western Heritage Alternative is endorsed by hunters, ranchers, and businesses as well as conservation groups. I urge the BLM to commit to protecting the irreplaceable wildlife resources in the Great Divide area, such as the huge herds of pronghorn antelope, and rarer species such as mountain plover, burrowing owls, and ferruginous hawks. Similarly, potential wilderness resources in the area such as Wild Cow Creek, the Ferris Mountains addition, the Pedro Mountains, and the lands surrounding Adobe Town should be studied and protected as wilderness study areas. 1

Above all, the BLM must ensure that oil and gas development in the Great Divide area is done in an environmentally responsible manner, and prohibit development in inappropriate and sensitive parts of this area (critical wildlife habitats, potential wilderness areas, etc.). The BLM also must ensure strong protections for other resources where drilling occurs, and require oil companies to utilize the best available technology, such as directional drilling techniques, to minimize environmental harm.

Sincerely,

Kenneth John Gilmour
3 - 195 Simcoe Street
Peterborough, Ontario
K9H 2H6

CANADA

LETTER 14

Douglas, WY 82633
June 21, 2003

RECEIVED
JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats. The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on flood plains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.

Protect all lands within the Adobe Town citizens' proposed WSA. In the project area there are almost 50,.000 acres of wilderness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area 1

Adopt a Conservation Alternative in the FEIS. The FEIS must not only have a conservation {or true no action} alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's values.

Mandate the least environmentally damaging types of drilling. Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation and landscapes.

Sincerely yours;

LeRoy Lewis

LeRoy Lewis
526 So. 4th. St.
Douglas, WY 82633

LETTER 15

~~Sharon Breitweiser~~
819 Harney
Laramie, WY 82072
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Signature:

LETTER 16

P Taylor
PO Bx 621
Saratoga, WY 82331
Please include full name and address

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

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Signature: Patricia A. Taylor

LETTER 17

Joel + Dawn Trask
P.O. Box 358
Encampment, WY. 82325
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 24 2003
BUREAU

Dear Mr. Spehar,

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Signature: Dawn-Senior-Trask and Joel M. Trask

LETTER 18

Leonard Lippman
210 Fallview Dr.
Green River, WY 82935-5456
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

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Signature: Leonard & Malka Lippman

LETTER 19

Bob Kisken
Box 444
Casper, WY 82602

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 2 4 2003
BUREAU OF LAND MANAGEMENT

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Signature: Robert J Ki

LETTER 20

Frank & Muriel McNeely
1825 Bellaire Dr.
Casper, WY 82604

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 2 4 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

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Signature: Frank G McNeely
Muriel L McNeely

LETTER 21

Miss Donna R. Marburger
2315 Spring Creek Dr.
Laramie, WY 82070-4951

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

JUN 24

Dear Mr. Spehar,

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1

Signature: Donna R. Marburger

2315 Spring Creek
Laramie, WY
82070

LETTER 22

Lorraine Saulino-Klein
Daniel S. Klein
1657 Apache Drive
Laramie, WY 82072

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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1

Signature: L Saulino-Klein / Daniel Klein

LETTER 23

JOHN D. EASTER
215 E. 6TH AVE
CHEYENNE, WY 82001-1421

Please include full name and address.

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

22

Dear Mr. Spehar,

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1

Signature: John D. Easter

LETTER 24

Michael Griffith
3424 Alta Vista Drive
Laramie, WY 82072

Please include full name and address.

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

22

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1

Signature: Michael Griffith

LETTER 25

Please include full name and address

23 cent
stamp here.

RECEIVED
JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: ______________________

LETTER 26

Please include full name and address

23 cent
stamp here.

RECEIVED
JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature: ______________________

LETTER 27

Please include full name and address

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JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

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Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

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1

Signature: ______________________________

LETTER 28

L E ZUELKE
3412 FOREST DR
CHEYENNE WY 82001-5719

Please include full name and address

USA 1¢
USA 1¢

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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1

Signature: Lorne E. Zuelke LTC USA

LETTER 29

Sigrid Mayer
1367 N 17th St.
Laramie, WY 82072

Please include full name and address

RECEIVED
JUN 24 2003
BUREAU OF LAND MANAGEMENT

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: Sigrid Mayer

LETTER 30

Mr. Ralph Starr
Box 534
Saratoga, WY 82331-0534

Please include full name and address

RECEIVED
JUN 24 2003
BUREAU OF LAND MANAGEMENT

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: Ralph Starr

LETTER 31

J. RUSSELL
PO Box 161
LARAMIE WY 82073
Please include full name and address

RECEIVED
JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: John Russell 6/19/03

LETTER 32

Vicki Burton
812 S. 13th Street
Laramie, WY 82070
Please include full name and address

CHEYENNE WY
PM
21 JUN
2003

RECEIVED
JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature:

LETTER 33

Please include full name and address

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LAND MANAGEMENT
FIELD OFFICE

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stamp here.

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: Sue E. Lowe

SUE E. LOWE
307742
2020

LETTER 34

Shirley M. Nielson
1729 Steele St
LARAMIE, WY 82070
Please include full name and address

CHEYENNE WY 820
PM
2003

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JUN 24 2003
LAND MANAGEMENT
FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: Shirley M. Nielsen 1729 Steele St Laramie Wy 82070

LETTER 35

Please include full name and address

CHEYENNE WY 820 PM 23 JUN 2003

BUREAU OF LAND MANAGEMENT RAWLINS FIELD OFFICE 24 2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature:

CHEYENNE WY 8 PM 2003

LETTER 36

Sheila Nyhus
606 S. 10th
Laramie, WY. 82070
Please include full name and address

CHEYENNE WY 820 PM 2003

BUREAU OF LAND MANAGEMENT RAWLINS FIELD OFFICE JUN 24

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: Sheila Nyhus

606 S. 10th
Laramie, WY. 82070

LETTER 37

Chuck Jelaski
4716 Cactus Way
Cheyenne WY 82009
Please include full name and address

CHEYENNE WY 820
PM
23 JUN
2003

RECEIVED

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: Chuck Jelaski

Let's protect these habitats for our future generations. We are only borrowing these lands for our kids.

LETTER 38

DIANA STRICKLAND
516 S LINCOLN #5
LARAMIE WY 82070
Please include full name and address

CHEYENNE WY 820
PM
23 JUN
2003

33USA

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JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: ____________________

LETTER 39

Sue Wedel
802 S. 12th
Laramie, WY 82070
Please include full name and address

CHEYENNE WY 820 PM 2003

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JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: Sue Wedel

LETTER 40

Anita Breitlinger
2045 Spring Creek
Laramie, WY 82070
Please include full name and address

CHEYENNE WY 820 PM 2003

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JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature:

LETTER 41

Ms. Jane Dominick
1061 N. 10th St.
Laramie, WY 82072

Please include full name and address

CHEYENNE WY 820
PM
JUN
2003

JUN 24 2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: Jane C Dominick 6/22/03

LETTER 42

Jenkins
1102 Grand
Laramie, WY 82070

Please include full name and address

CHEYENNE WY 820
PM
21 JUN
2003

24 2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: Mark Jenkins

LETTER 43

D F Adams
421 S 19th St
Laramie, WY 82070

Please include full name and address

CHEYENNE WY 820
PM

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature:

LETTER 44

Eric Bonds
1603 Sheridan
Laramie WY 82070

Please include full name and address

CHEYENNE WY 820
PM

RECEIVED
JUN 24

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407-22

Protect Adobe Town!

Dear Mr. Spehar,

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1

Signature:

LETTER 45

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Please include full name and address

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JUN 24 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

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- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests. 1
- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wildnerness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
- **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature: Cheyenne, WY 82009

LETTER 46

Leila Bruno
<leilabruno@earthlink.net>
06/25/03 08:47 PM

To: <DesFlats_WYMail@blm.gov>
cc:
Subject: Desolation Flats Project Area

June 25, 2003

John Spehar, Project Coordinator
BLM
Rawlins Field Office
POB 2407
Rawlins, WY 82301

Dear Mr. Spehar:

I am writing to urge the BLM to withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling in remaining roadless lands and to protect all lands within the Adobe Town citizens' proposed wilderness 'Desolation Flats Project Area." 1

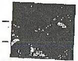
I was among those who helped early on with citizen inventories of these areas back in the 1990's, and we continue to feel these pristine areas are much more valuable as wildlands to the state of Wyoming and it's current and future citizens -- more valuable for wildlife and primitive recreation than for drilling.

Please do not authorize drilling in this area.

Thank you for considering my request.

Leila Bruno
POB 1735
Laramie WY 82073

LETTER 47



John S. Boyer
P.O. Box 156
Savery, WY 82332

Please include full name and address

SAVERY WY
JUN 2003
PM
82332

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wildnerness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Signature: John Boyer PO Box 156 Savery, WY 82332

LETTER 48

Gerald C Landen
349 W Fairview
Wheatland Wyo

Please include full name and address

WHEATLAND WY 82201
PM
24 JUN

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

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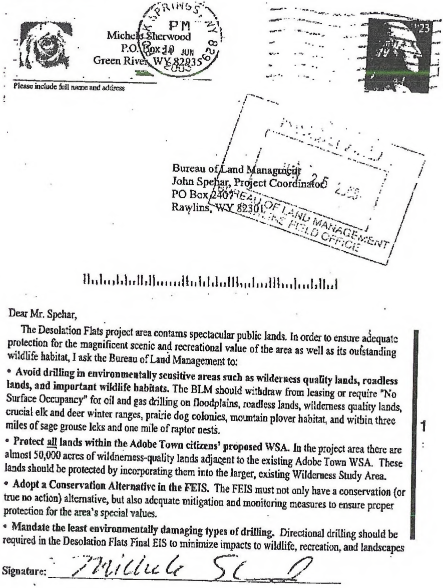
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Please save our land of the free

Signature: Elizabeth S Landen

LETTER 49



Michele Sherwood
P.O. Box 10
Green River, WY 82935

Please include full name and address

ROCK SPRINGS, WY 829
PM
24 JUN
2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

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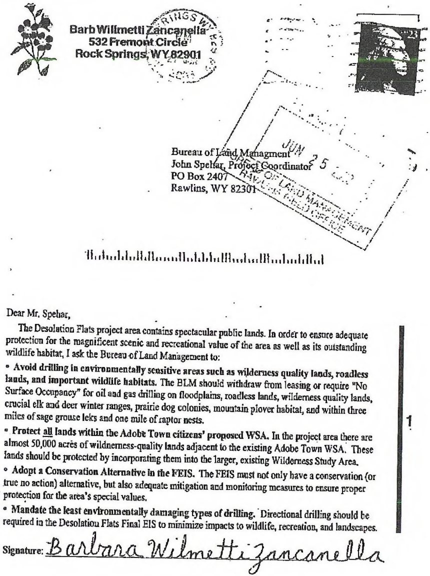
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes

1

Signature: Michele

LETTER 50



Barb Willmetti Zancanella
532 Fremont Circle
Rock Springs, WY 82901

ROCK SPRINGS WY
2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

1

Signature: Barbara Wilmetti Zancanella

LETTER 51

M-Wade -
1813 Skyline Rd
Laramie, WY 82070
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

22

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

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- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wildnerness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature:

LETTER 52

Laura Smith
6501 Military Rd.
Cheyenne, WY 82009
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

82301+2407 22

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests. 1
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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature: Laura Smith

LETTER 53

Mr. Henry J. Laskowsky
1507 E Custer St
Laramie WY 82070-4217

Please include full name and address

CHEYENNE WY 820
PM
JUN
2003

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

1

Signature:

LETTER 54

Heath Jan Eaton
607 S. 6th
Laramie, WY 82070
Please include full name and address

CHEYENNE WY 820
PM
JUN
2003

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

1

Signature: 6/24/03

LETTER 55

Jo & Robert Larson
1005 Wyoming St.
Rock Springs, WY 82901

Please include full name and address

ROCK SPRINGS, WY 82901
PM
'03

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301X2407 B022

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes 1

Signature: Josephine D. Larson Robert L Larson
1005 Wyoming St Rock Springs, WY 82901

LETTER 56

567½ No 9th St
82072

Please include full name and address

CHEYENNE WY 820
PM
26 JUN
2003

RECEIVED
JUN 25
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

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Signature:

CHEYENNE WY
PM
26 JUN
2003

LETTER 57

Wyoming Legislature
House of Represenatives
Jane Warren
1203 Park Ave.
Laramie, Wyoming 82070

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

The desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats. The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.

Protect all lands within the Adobe Town citizens' proposed WSA. In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.

Adopt a Conservation Alternative in the FEIS. The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.

Mandate the least environmentally damaging types of drilling. Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Sincerely,
Jane Warren
Rep. Jane Warren
House District 13

Thanks, John

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

LETTER 58

PO Box 386
Teton Village, WY 83025
June 22, 2003

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar:

The desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats. The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of rapto nests.

Protect all lands within the Adobe Town citizens' proposed WSA. In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area. 1

Adopt a Conservation Alternative in the FEIS. The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.

Mandate the least environmentally damaging types of drilling. Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Sincerely,
Carol Harkness
Carol Harkness

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

LETTER 59

deuxfleurs@juno.com
06/25/03 08:32 AM

To: DesFlats_WYMail@blm.gov
cc:
Subject:

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Sir,

I strongly believe the BLM should:

- Prohibit drilling in environmentally sensitive such as wilderness quality lands, roadless lands, and important wildlife habitats. The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, and wilderness quality lands.
- Protect all lands within the Adobe Town citizens' proposed WSA.
- Provide a sufficient analysis of the impacts of the proposed project. roads. 1
- Adopt a Conservation Alternative in the FEIS. The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.
- Mandate the least environmentally damaging types of drilling.

Please try to keep Wyoming's natural wonders intact for future generations.

Thank you,
Gaines Whitcomb

LETTER 60

Po Box 3271
Laramie, WY 82071
June 21, 2003

John Spehar, Project Cordinator
BLM
Po Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

I'm writing to comment on the Desolation Flats project. Please require directional drilling and do everything else you can to minimize the impacts of oil and gas development. Require that all roads be decommissioned and revegetated at the end of the project. Please add NSO stipulations to key wildlife areas, including wildlife winter ranges, any area within a few miles of sage grouse leks or nesting areas, prairie dog towns, mountain plover nesting and foraging areas, and other wildlife areas. 1

Please add NSO stipulations to all wilderness quality lands including areas adjacent to Adobe Town WSA.

Sincerely,

WL Baker
William L. Baker

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

LETTER 61

Dear Administrator:

I realize that there is going to be some drilling in the Adobe Town and Desolation Flats area. However this does not mean that the BLM needs to repeat the devastation that has gone on in the Powder River Basin. As a hunter and camper I have personally visited this area many times over the years and feel it has incredible recreation possibilities.

The BLM needs to prohibit drilling in ecologically sensitive areas such as wilderness lands, roadless areas and important wildlife habitats. The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains. The BLM needs to protect crucial elk Antelope, and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.

The BLM needs to protect all lands within the Adobe Town 1
citizens' proposed wilderness. In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town Wilderness Study Area. These lands should be protected by incorporating them into the larger, existing WSA.

Before granting the leases the BLM needs to map and provide information on all proposed roads and wells. The BLM needs to inform the public on the scope of the project. For instance the general public does not realize that the project will create 500 miles of new roads and drill over 300 wells.

The BLM need to demand the least environmentally damaging types of drilling. Directional drilling should be required in the proposed Desolation Flats project to reduce impacts to wildlife, recreation, and landscapes. 1

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Sincerely,

Dana Wahlquist
Dana Wahlquist
406 S. 12th St.
Laramie, WY 82070

LETTER 62

Dear Administrator:

I realize that there is going to be some drilling in the Adobe Town and Desolation Flats area. However this does not mean that the BLM needs to repeat the devastation that has gone on in the Powder River Basin. As an archeologist and camper I have personally visited this area many times over the years and feel it has incredible recreation possibilities.

The BLM needs to prohibit drilling in ecologically sensitive areas such as wilderness lands, roadless areas and important wildlife habitats. The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains. The BLM needs to protect crucial elk Antelope, and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.

The BLM needs to protect all lands within the Adobe Town citizens' proposed wilderness. In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town Wilderness Study Area. These lands should be protected by incorporating them into the larger, existing WSA.

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The BLM need to demand the least environmentally damaging types of drilling. Directional drilling should be required in the proposed Desolation Flats project to reduce impacts to wildlife, recreation, and landscapes. 1

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Sincerely,

Jack Clinton
406 S. 12th St.
Laramie, WY 82070

LETTER 63

Jeff Yannone
2726 Dale Court
Laramie, Wyoming 82072

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RE: Desolation Flats project area

June 24, 2003

Dear Mr. Spehar:

I am writing to ask the Bureau of Land Management to protect the Desolation Flats project area from the oil and gas drilling and inappropriate recreational use. I would like the BLM to:

1. Protect all land within the Adobe Town Citizens' proposed Wilderness Study Area. There are approximately 50,000 acres of wilderness quality land adjacent to the Adobe Town WSA. These lands should be protected by being incorporated in the existing WSA.
2. Adopt a conservation alternative in the FEIS. There should be adequate mitigation and monitoring to ensure that needed protections are in place. 1
3. The BLM should withdraw from leasing or require "No surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, mountain plover habitat, prairie dog colonies, elk and deer winter ranges and within three miles of sage grouse leks and one mile of raptor nests.
4. If drilling is allowed, the BLM must require the least environmentally damaging type of drilling. I believe this is directional drilling. All efforts need to be made to minimize the impact of drilling on wildlife, recreation and landscaping.

Thank you for your consideration.

Jeff Yannone

LETTER 64

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

ATMOSPHERE
MOUNTAIN WORKS
211 South FIRST
LARAMIE-WY-82070

Sirs,

I am concerned about you upcoming Policy decission on The "Desolation Flats Project Area". Once we open the doors To rampd energy interests in our wild areas .... they will destroy these places forever. When these areas are developed and destroyed ... then there will be no more decissions to be made --- for there will be no more wild areas to save. Please Save Something for our grand Kids. 1

Sincerely Scott Ehinger

LETTER 65

MARILYN J. SPRINKLE
1425 STEELE ST.
LARAMIE, WY 82070
Please include full name and address

CHEYENNE WY 820
PM
25 JUN
2003

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

Dear Mr. Spehar,

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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Signature: Marilyn J. Sprinkle

LETTER 66

DUCKS UNLIMITED
Jamey P. Eddy
P.O. Box [illegible]
Laramie, WY 82071
Please include full name and address

WY 82
PM

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

22

Dear Mr. Spehar

23 JUNE 2003

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

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Signature: Jamey P. Eddy

LETTER 67

Jack Clinton
406 S 12th St
Laramie WY 82070-4020

Save-the-Redwoods League

Please include full name and address

RECEIVED
JUN 25 2002
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: Dana Wahlquist

LETTER 68

DAVID GREGORY
605 E. HARNEY ST
LARAMIE, WY
Please include full name and address
82072

RECEIVED
JUN 25
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature:

LETTER 69

HAVENER
94 FOXCREEK
LARAMIE WYO 82070
Please include full name and address

CHEYENNE WY PM 25 JUN 2003

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: GARY HAVENER LARAMIE, WYO

LETTER 70

Kristin Belko
272[illegible]6 Dale Ct.
Laramie, WY 82072
Please include full name and address

CHEYENNE WY 820 PM 25 JUN 2003

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: Kristin Belko

LETTER 71

Darlys W. Pexa
1307 E. Baker St.
Laramie, WY 82072
Please include full name and address

CHEYENNE WY 820
PM
25 JUN
2003

USA 37

RECEIVED
JUN 25
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: Darlys W. Pexa

LETTER 72

Joseph E. Turk
3326 Laramie
Cheyenne, WY
82001
Please include full name and address

CHEYENNE WY 820
PM
25 JUN
2003

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: Joseph Turk

LETTER 73

Jack Clinton
406 S 12th St
Laramie WY 82070-4020
Save-the-Redwoods League
Please include full name and address

CHEYENNE WY 820
PM
25 JUN
2003

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: Jack E. Clinton

LETTER 74

Albert R. Ritner
3741 Boxelder Dr.
Cheyenne, WY 82001
Please include full name and address

CHEYENNE WY 820
PM
25 JUN
2003

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: Albert Richard Ritner - Biologist

LETTER 75

J. Michael Oxley
P.O. Box 1833
Laramie, WY 82073
Please include full name and address

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: J. Michael

LETTER 76

Jim Richard
2215 Rangeview
Laramie, Wyo. 82070
Please include full name and address

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: James L. Richard
2215 Rangeview
Laramie, WY 82070

This is a continuation of Geo Bush's plan to turn over the public lands to corporate america-

LETTER 77

S. Stoddard
1003 A Downey St.
Laramie, WY 82072
Please include full name and address

CHEYENNE WY 820
PM
JUN
2003

RECEIVED
JUN 25
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

A2301+2407 22

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1

Signature: ______________________________

LETTER 78

Zackie Salmon
830 Hwy 230
Laramie WY 82070
Please include full name and address

CHEYENNE WY 820
PM
JUN
2003

RECEIVED
JUN 25
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: Zackie S. Salmon

LETTER 79

ATMOSPHERE MOUNTAINWORKS
211 SOUTH FIRST
LARAMIE - WY - 82070
Please include full name and address

23 cent
stamp here.

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: Scott A. Ebinger

LETTER 80

CAROL ECKHARDT
P.O. Box 3495
Laramie WY 82071
Please include full name and address

CHEYENNE WY 820
PM
JUN
2003

RECEIVED
JUN 25 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature:

LETTER 81

Judith Powers
<JPowers@uwyo.edu>
06/26/03 09:04 AM

To: DesFlats_WYMail@blm.gov
cc:
Subject: FW: Comments on draft plan for Desolation Flats

Bureau of Land Mangement
Rawlins Field Office
John Spehar, Project Coordinator
PO Box 2407
Rawlins WY 82301

Dear Mr. Spehar:

I must speak against the BLM's draft plan for the industrialization of the "Desolation Flats Project Area." This spectacular, almost untouched, 230,000-acre portion of the Red Desert is a state and national treasure that should not be destroyed by indiscriminate development. Its value as essential wildlife habitat as well as its scenic and recreational potential would all be tragically lost if irresponsible energy interests were allowed to drill as many as 385 conventional gas wells and contruct up to 500 miles of roads. It's truly painful for me to think of this magnificant natural area turned into an industrial wasteland.

This area overlaps a portion of the citizen-proposed expansions to the Adobe Town Wilderness Study Area. I believe the interests of the American public and the welfare of our environment would be much better served by incorporating Desolation Flats into larger, existing Wilderness Study Areas. 1

At the very least, the BLM should conduct detailed impact studies of the results that drilling 385 wells and constructing 500 miles of new roads would have on the wildlife, recreational potential, and visual quality of the area and be prepared to provide protection for the area's special values. Part of the protection should involve mandating the least environmentally damaging types of drilling (i.e., directional drilling), if drilling cannot be avoided.

Thank you for the opportunity to comment on the plan for the "Desolation Flats Project Area." I urge you to consider preserving and protecting this magnificant landscape and ecosystem for future generations, rather than letting it fall prey to transient needs.

Sincerely,

Judith K. Powers
150 Butte Loop
Laramie WY 82070

LETTER 82

RECEIVED
JUN 27 [illegible]
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

766 N. Pine St.
Laramie, WY 82072

June 26, 2003

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
P.O. Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

This letter is in regards to gas drilling in Desolation Flats Project Area. I am strongly opposed to irresponsible drilling in this area of the Red Desert.

I am asking the BLM to prohibit drilling in environmentally sensitive wilderness lands, roadless lands, and important wildlife habitats. I am also asking the BLM to protect all lands within the Adobe Town citizens' proposed Wilderness Study Area. I further ask the BLM to provide sufficient analysis of the impacts of the proposed Desolation Flats Project. This analysis to contain locations of the proposed gas wells and roads. I also ask the BLM to adopt a Conservation Alternative in the FEIS. Finally, I ask the BLM to mandate the least environmentally damaging types of drilling such as directional drilling. 1

Wyoming is running out of protected areas. I am asking the Bureau of Land Management to protect this area.

Sincerely,

Megan Plant

Megan Plant

LETTER 83

"Barb Parsons"
<barbp@trib.com>
06/27/03 12:43 PM

To: <DesFlats_WYMail@blm.gov>
cc:
Subject: Adobe Town Protection

Thank you for this opportunity to comment:
Though my comments will be brief, as I have just a little time to reply, I hope they will be seriously weighed.
It seems like the BLM is allowing many projects, like the Desolation Flats Project to occur or to encroach into areas that should be protected.
Areas, like Adobe Town, should have been under protection long ago. Unfortunately, it seems that the only way treasures can be protected is to lock them up, as the will or conservation ethic is generally lacking to treat them with respect and care.
Any and all projects, including this one that threatened sensitive, roadless, wildlife habitat, or wilderness quality areas, should be very limited and heavily restricted to protect those values. 1
Any new roads around Adobe Town lead to the real danger or destruction of the resource by recreational vehicles and should be limited. Methods such as directional drilling and limited pad sites should be required to limit impact to the area.
Barbara Parsons
Rawlins, Wyoming

LETTER 84

Larry Baesler
615 Montclair Dr
Cheyenne WY 82009
Please include full name and address

RECEIVED
JUN 27 20
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

22

Dear Mr. Spehar,

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- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature: Larry Baesler

LETTER 85

Mr. and Mrs. Pat Loper
401 W. 4th Avenue
Cheyenne, WY 82001-1222

PM

asc include full name and address

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

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1

Signature: R. Patrick Loper

LETTER 86

Robert C. Thurston
P.O. Box 40[illegible]
Laramie, WY 82071

PM

Please include full name and address

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

22

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1

Signature: Robert C. Thurston

LETTER 87

HILLIP BOLTON
O. BOX 235
NTENNIAL WY. 82055
: include full name and address

CENT WY
JUN 2
82055

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project ~~Coordinator~~
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: Phillip T Bolton

LETTER 88

Stoesz Family
1415 Steele
Laramie, Wy 82070
Please include full name and address

CHEYENNE WY 820
PM

RECEIVED
JUN 27
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

CHEYENNE WY 820
PM

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Signature: Michael R Stoesz Michael R. Stoesz Erin A. Stoesz
Jennifer B. Stoesz

LETTER 89

Nelsons
1215 South 5th St.
Laramie, Wy. 82070
Please include full name and address

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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1

Signature: Stanley R Huff, 4217 Crow Dr Laramie WY

LETTER 90

Stanley R Huff
4217 Crow Dr
Laramie WY 82072
Please include full name and address

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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1

Signature: Stanley R Huff, 4217 Crow Dr Laramie WY

LETTER 91

Mike & Cathy Greenbaum
6202 Northview Drive
Cheyenne, WY 82009
Please include full name and address

CHEYENNE WY 820
PM
JUN
2003

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

A2301+2407 22

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Signature: Mike Greenbaum

LETTER 92

LOIS CHICKERING
1610 RAINBOW
LARAMIE, WY 82070
Please include full name and address

CHEYENNE WY 820
PM
25 JUN
2003

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

A2301+2407 22

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Signature: Lois Chickering

LETTER 93

Judy Sorensen
P.O Box 8
Albin, WY 82050
Please include full name and address

PM
82009

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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1

Signature: Judy D Sorensen

LETTER 94

K. Zajac
1721 Palmer Dr
Laramie WY 82070
Please include full name and address

CHEYENNE WY 820
PM
27 JUN
2003

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: Zajac

LETTER 95

RALPH GARRETT
817 FLINT ST
LARAMIE, WY 82072
Please include full name and address

CHEYENNE WY 820
PM

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

That land belongs to all of us — not just to industrial developers!

Dear Mr. Spehar,

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Signature: Ralph Garrett

LETTER 96

Albert & Fern Toth
PO Box 1119
Pinedale, WY 82941
Please include full name and address

ROCK SPRINGS WY 829
PM
26 JUN 2003

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301X2407 B022

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Signature: Fern + Albert TOTH

LETTER 97

Please include full name and address

23 cent
stamp here.

ISS #6 DENVER CO P&DC 04:39 06/25/03

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

22

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Signature: ______________________________

LETTER 98

Melinda Harm Benson
808 S. 13th St.
Laramie, WY 82070

Please include full name and address

CHEYENNE WY 820
PM

RECEIVED
JUN 27 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

CHEYENNE WY 820
PM

Dear Mr. Spehar,

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Signature: ______________________________

LETTER 99

"ML Morrison"
<mamorrison@vcn.com>
06/29/03 10:20 PM

To: <DesFlats_WYMail@blm.gov>
cc: "Wyoming Outdoor Council" <woc@wyomingoutdoorcouncil.org>, "Governor Dave Froudenthal" <governor@missc.state.wy.us>, "Senator Craig Thomas" <craig@thomas.senate.gov>, "Mike Enzi" <senator@enzi.sonate.gov>
Subject: INDUSTRIAL PROJECT THREATENS ADOBE TOWN

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
Rawlins, WY 82301

Dear Mr. Spehar:

I have been following as closely as possible the problems being publicized about the development in the Red Desert and the possibility of the BLM's draft plan for drilling 385 conventional gas wells, plus all the disturbances to wildlife, degradation of aesthetically unique, and pristine area of this great state and country.
I have made several trips via WY 789 from Creston Jct. through Baggs, Craig, Co. etc. during the past 2 or 3 years to visit a daughter who lives in Paonia, Colorado on the Western slope. I have watched the CBM wells gradually popping up like huge tin cans and service roads everywhere. THIS MUST NOT HAPPPEN IN MY RED DESERT!!
Last fall I went on a two day trip into the Red Desert for the first time after hearing about it for years from a husband who used to fly rescue flights searching for lost souls. I have been on the altiplano with its vicuna in Peru near the Andes and other magnificent places here and abroad, but have never witnessed such magnificent, awesome vastness and raw and hard beauty as I saw and felt in the Red Desert. The isolation, wildlife, cloud formations, and mountain ranges witnessed from all directions in the Big Nothing was any thing but nothing!! 1

I have not visited the Desolation Flats Project Area. In reading about it and visiting with those who have been there, it sounds to me like it was poorly named. It infuriates me that it could possibly become like WY. 789 and CO hwy 13.
The BLM is supposed to protect the public land. I am asking the agency to prohibit drilling in wilderness quality lands, roadless and wildlife habitats. Protect all lands within the Adobe Town citizens' proposed WSA and do not drill in prairie dog colonies. Some drilling of course will happen so please provide a sufficient analysis of the impacts of the proposed project with plenty of detail and forward thinking and planning (unlike Bush's war in Iraq).
Adopt a Conservation Alternative with adequate mitigation and monitoring measures to protect special values.
Make sure the least environmentally damaging methods of drilling are mandated.
WHERE ELSE IN THIS COUNTRY ARE THERE SUCH ABUNDANT HERDS OF WILD LIFE, SAGE GROUSE LEKS, RAPTORS, AND ALL OTHER HIGH DESERT FLORA AND FAUNA IN SUCH UNDISTURBED, ECOLOGICALLY, COMPLETE AND SPECTACULAR PUBLIC LANDS???? THESE MUST REMAIN SAFE FOR FUTURE GENERATIONS, NOT DESTROYED FOR SHORT TERM THINKING AND WASTEFUL ENERGY USAGE DURING THIS MOST DESTRUCTIVE PERIOD IN OUR COUNTRY'S HISTORY. 1

Sincerely,
Mary Lou Morrison, 845 East Third, Casper, WY 82601

LETTER 100

SLMateri@cs.com
06/29/03 09:08 PM

To: DesFlats_WYMail@blm.gov
cc:
Subject: Red Desert

Please adopt a conservation alternative to gas development in the Environmental Impact Statement for the Red Desert. This area should not be destroyed by wells, roads, power lines, and pipelines. I ask that the statement include the following:

Prohibit drilling in environmentally sensitive areas.
Protect all lands within the Adobe Town citizens proposed wilderness.
Provide a sufficient analysis of the impacts of the proposed project.
Mandate the least environmentally damaging types of drilling.

1

Thank you,

Sandra Materi
1600 W. Odell
Casper WY 82604

LETTER 101

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

June 28, 2003

Dear Mr. Sochar:

I am writing to express my concern for the fate of the Desolation Flats Project Area. The pristine quality of this area is seriously threatened by the proposed drilling permitted by the BLM's draft plan.

Therefore, I join with the Wyoming Outdoor Council, the Conservation Alliance and other concerned citizens in requesting that you and your colleagues do all you can to help preserve our vanishing, irreplaceable wilderness.

We are asking that the BLM:

① Initiate a conservation alternative in the FEIS that includes quality mitigation and monitoring gauges to maintain protection.
② Prohibit drilling in environmentally-sensitive wilderness quality lands, road-less lands and vital wildlife habitats. Nor should there be any "surface occupancy" in these areas.
③ Incorporate the 50,000 acres of wilderness into the existing Wilderness Study Area of Adobe Town.
④ Mandate directional drilling in these areas.

Thank you, Mr. Sochar, for taking the time to read this. Hopefully we will not be swayed by those short-term interests

1

Two

that cause irreparable damage to our all-too-quickly disappearing wilderness.

The awesome beauty of the natural places on this Earth is a gift, and we as humans have the tremendous capacity to protect, or to destroy, it. 1

Sincerely,

Mary W. Gay

Mary Gay
189 Garfield
Lander, WY 82520

Bureau of Land Management
John Spehar, Project Coordinator
P.O. Box 2407
Rawlins, WY 82301

8230182407

LETTER 102

PETROLEUM ASSOCIATION OF WYOMING

951 Werner Court, Suite 100
Casper, Wyoming 82601
(307) 234-5333

fax (307) 266-2189
e-mail: paw@pawyo.org
www.pawyo.org

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

June 27, 2003

Mr. John Spehar
Project Coordinator
Rawlins Field Office
BUREAU OF LAND MANAGEMENT
1300 North Third Street
Rawlins, Wyoming 82301

Re: Draft Environmental Impact Statement for the Desolation Flats Natural Gas Field Development Project in Sweetwater and Carbon Counties, Wyoming

Dear Mr. Spehar:

The Petroleum Association of Wyoming (PAW) would like to thank BLM for the opportunity to comment on the referenced document. PAW is Wyoming's largest and oldest oil and gas trade organization, the members of which account for over ninety percent of the natural gas and over eighty percent of the crude oil produced in the State. This project will directly affect members of PAW.

PAW has the following comments regarding the Draft Environmental Impact Statement (DEIS) for the above referenced document:

1. The Applicants have agreed to numerous "Applicant Committed Measures" which go beyond the required protective measures established in the current land management plan. The Applicants have demonstrated their willingness to work with BLM in protecting the effects on the environment and as a result, PAW believes that the proposed project has provided sufficient mitigation to protect the environment.
2. The "Applicant Committed Measures" are voluntary actions agreed to by the individual companies and should not establish the precedent for future projects that are similar in nature. 1
3. Page 2-35, Resource-Specific Requirements, Water Resources: ...All drainage crossing structures would be designed to carry a 50-year discharge event..."

It is recognized that the mitigation measure is an "Applicant Committed Measure"; however, PAW questions the need to design all drainage crossing structures to carry the 50-year discharge event. The 25-year figure should be used for the intermittent streams and drainage structures should be appropriately constructed. However, ephemeral drainages' lack of water may not require the same costly drainage structures as the intermittent streams. PAW would request that BLM remain flexible when mitigating ephemeral drainage crossings. 1

4. Page 2-37, Resource-Specific Requirements: "Invasive/Non-Native Species"

PAW believes that consultation between the operator, BLM, and County Weed and Pest agencies should be encouraged to identify noxious weed outbreaks. Once identified, the appropriate control measures should be implemented.

5. Page 4-64, 4.7.3.1.3, Wild Horses: "...implementation of the Proposed Action is not expected to significantly impact wild horses within the DFPA."

PAW agrees with BLM and further stresses that the established population levels for wild horses must be determined by available forage. In addition, population levels must be managed by BLM for the benefit of other range resource users (i.e. livestock, grazing, wildlife, etc.). BLM must implement a strategy for controlling the growing wild horse herds and maintaining the herd numbers at the appropriate population levels. 2

6. Page 4-65, 4.7.3.1.4, Wildlife, Upland Game Birds: "Greater Sage-grouse"

BLM has significant flexibility in developing protective measures for BLM Sensitive Species and Wyoming Species of Concern such as the Sage Grouse. BLM has certain discretionary authority and should consider the effects of restrictions on the oil and gas operator as part of its adoption of reasonable and prudent mitigation measures necessary to minimize potential impacts on non-ESA listed Special Status Wildlife Species. 3

7. Page 4-72, 4.7.5, Wildlife, Additional Mitigation Measures: "In areas of overlapping big game crucial winter range, the number of locations may be reduced (less than 4) in order to minimize habitat loss..."

PAW opposes this extreme mitigation measure and does not believe that it is justified. BLM has failed to provide data that drilling on overlapping winter range at a density of greater than four creates impacts that are significantly greater than impacts from lesser well densities. Should BLM obtain documentation that 4

proves this determination, PAW would request that the information be forwarded to our office in Casper for review.

BLM should be required to monitor its mitigation measures in the field and quantify the effectiveness of the measure instead of continuing to implement unsupported restrictive stipulations on industry. Monitoring should become the basis for adjustments to the mitigation measures and not the result of a "best guess" measure that becomes the threshold that BLM rarely reduces, but often increases such as in this instance. Monitoring will require additional budget appropriations for manpower to avoid unfairly placing the burden on industry. 4

8. Page 4-79 & 80, 4.8.1.4, Wildlife, Additional Mitigation Measures: "Mountain Plover"

The status of the Mountain Plover as "proposed for listing" allows for a certain amount of flexibility in developing measures protective of the species. Unless the U.S. Fish and Wildlife Service determines that the Mountain Plover should be listed under the Endangered Species Act as threatened or endangered, BLM has certain discretionary authority and should consider the effects on the oil and gas operator as part of its adoption of reasonable and prudent mitigation measures necessary to minimize the impact on the species. 5

9. Page 4-78, 4.8.1.4, Wildlife, Additional Mitigation Measures: "A plugged and abandoned well within ½ mile of the identified mountain plover occupied habitat area would be identified with a marker 4 feet tall with a perch inhibitor on the top of the marker."

BLM has no authority to mandate this requirement. The Wyoming Oil and Gas Conservation Commission has the authority to set such standards. 6

10. Appendix H, Wildlife Monitoring/Protection Plan

Should all the provisions in this section be implemented, BLM will be overwhelmed with data such that there are neither dollars nor manpower to conduct meaningful analyses. Resource managers are faced with a difficult task in managing the complex interactions of biological, social, and physical components of an ecosystem. To that end, PAW recommends that BLM adopt as part of its plan, the identification of key indicators by which system changes can be monitored. For each key indicator, the Review Team should identify triggers at which time, if exceeded, additional investigations would occur. Monitoring will require additional budget appropriations for manpower to avoid unfairly placing the monetary burden on industry. 7

PETROLEUM ASSOCIATION of WYOMING
951 Werner Court, Suite 100
Casper, Wyoming 82601

11. PAW recognizes that the social and economic opportunities generated from the project would continue to benefit the residents of Wyoming and the participating counties by directly creating new jobs and producing additional revenues. Socio-economics are an important component to this cumulative analysis and were appropriately incorporated into the EIS. 8

12. In a time of uncertainty and with the projection of natural gas production being unable to meet demand this winter and beyond, Wyoming has the opportunity to provide much needed natural resources to markets throughout the nation and this proposal has the potential to assist in that effort. At the same time, industry recognizes the importance of protecting the environment and will work to adequately address those concerns during the appropriate level of NEPA analysis. 9

In conclusion, PAW supports the Proposed Action with the modifications outlined above and the Final EIS should be prepared without delay.

Sincerely,

Dru Bower

Dru Bower
Vice President

Cc: Steve Degenfelder
Curt Parsons
Dave Brown
Gene George
Renee Taylor
Dave Petrie
Todd Ennenga
Bruce Hinchey

LETTER 103

Dan and Janet W. Blair
P.O. Box 1640 (4514 US Hwy, 26)
Dubois, WY 82513-1640
email: danjanbee@wyoming.com

June 27, 2003

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

COMMENTS RE: Proposed Desolation Flats Project

Dear Mr. Spehar:

Last March 18th we submitted comments to Kurt Kotter in your Field Office concerning the Great Divide long-term management plan. Included in those comments were some of the same matters we are going to repeat here, now relative to BLM's proposed Desolation Flats project, about which we are extremely concerned (particularly since it appears that BLM intends to go forward with the project before the management plan is completed; this is just wrong.)

As we commented in March, we believe that in the recent past the BLM has begun to place far too much emphasis on oil and gas development across the State of Wyoming, at the expense of enough protection for native wildlife and the wild and scenic places that BLM manages. In our March comments we frankly stated our desire to see the BLM put conservation **first** in the priority of uses for BLM lands; that the development of federal minerals must not take place at the expense of other critical resources: wildlife (some of which is unique to the West, such as the pronghorns) and scenic western landscapes (like the Red Desert). We expressed our understanding that in order to maintain our way of life we must be willing to accept some of the impacts put on the earth's condition and thus on our human condition, while expressing our fear that our choices and actions now may cause some irreversible change for the worse down the line.

Now comes the first evidence that our fear is justified: this seeming "end-run" around whatever the ultimate long-term management plan may be, in the form of the proposed Desolation Flats project (what a clever way to imply that there is nothing in the area worth worrying about from a conservation standpoint – it's just "desolation" in the eyes of the BLM!)

Specific to the proposed Desolation Flats project, we consider it imperative that BLM adopt a conservation alternative in its Environmental Impact Statement, to include:

- **Protection of all lands within the Adobe Town citizens' proposed wilderness.** In the proposed project area almost 50,000 acres of wilderness-quality lands are adjacent to the existing Adobe Town Wilderness Study Area. These lands should be protected by incorporating them into the larger, existing WSA.
- **Sufficient analysis of the impacts of the proposed project.** The BLM has not given the public the detail needed to provide for a sufficient analysis of the impacts of the project. As an example, your agency states that there will be 385 wells drilled and about 500 miles of new roads constructed in the project. ***What are the locations of these wells? Where will the roads be constructed?*** These are crucial details, without which the impacts to wildlife, recreation, and visual quality of the area cannot be accurately analyzed. 1

- **Prohibition on drilling in environmentally sensitive areas such as wilderness-quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, and wilderness-quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.

And finally, 1

- **BLM must mandate the least environmentally damaging types of drilling.** As we indicated in our March 18th comments, minimum-footprint directional drilling should be required in any future BLM project in order to reduce impacts to wildlife, recreation, and landscapes.

At the time of our March comments to your Field Office, we had just returned from a two-day symposium in Pinedale that included tours of two Pinedale BLM Field Office lease sites: the Pinedale Anticline and the Jonah Field, both gas developments. We were absolutely appalled by the almost irreversible changes in the landscape, **and particularly by the number of variances to lease stipulations BLM is allowing.** This simply must not be allowed to happen at any other sites under BLM's management.

We say yet again to you, Mr. Spehar, as we said to Mr. Kotter: Wyoming's exceptional quality of life, exemplified by this state's vast areas of pristine and frequently unique habitat (whether BLM opts to refer to it as "desolate" or not), and its varied – some of it rare – wildlife, must be protected against the continually increasing pressures of the oil and gas and mineral extraction industries.

Thank you for giving our comments your thoughtful and serious consideration.

Very truly yours,

Dan Blair Janet W. Blair

Dan Blair Janet W. Blair

LETTER 104

NORTHERN PLAINS
RESOURCE COUNCIL

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

June 25, 2003

John Spehar
Bureau of Land Management
P.O. Box 2407
Rawlins, WY 82301

RE: Northern Plains Resource Council's comments on Desolation Flats Natural Gas Field Development DEIS

Dear Mr. Spehar:

I am writing on behalf of the Northern Plains Resource Council, a Montana family agriculture and conservation organization. Northern Plains' members live and work in Montana and are interested in protecting our water, farms and ranches, and way of life from irresponsible coal bed methane development in the Powder River Basin of Wyoming and Montana. 1

We are writing to protest the use of our organization's name in the Desolation Flats Natural Gas Field Development DEIS, Chapter 4, on page 4-7. Northern Plains did not evaluate or participate in the air quality assessment for this project. It is incorrect to list Northern Plains as having provided input in the project and to indicate that Northern Plains approves the air quality assessment methodology as technologically sound.

Please remove our name from any reference to the project and issue an errata sheet to correct your inaccuracy. Should we choose to comment on DEIS documents prepared by your agency, you will receive a written document outlining our concerns or approval. 2

Sincerely,
Dan Teigen, Chairman
Northern Plains Resource Council

CC Dan Heilig, Wyoming Outdoor Council, Jack Tuholske

2401 Montana Avenue, Suite 200, Billings, MT 59101
Tel: 406.248.1154 Fax: 406.248.2110 Email: info@northernplains.org www.northernplains.org

LETTER 105

DAVE FREUDENTHAL
GOVERNOR

THE STATE OF WYOMING

STATE CAPITOL
CHEYENNE, WY 82002

Office of the Governor

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

June 30, 2003

United States Department of the Interior
Attn: John Spehar, Project Coordinator
Rawlins Field Office
P.O. Box 2407 (1300 North Third Street)
Rawlins, WY 82301-2407

Re: Desolation Flats Natural Gas Development Project - DEIS
State Identifier Number: 2000-068

Dear Mr. Spehar:

This office has reviewed the referenced Draft Environmental Impact Statement (DEIS) on behalf of the State of Wyoming. This Office also distributed the referenced document to all affected state agencies for their review, in accordance with State Clearinghouse procedures. Attached are comments from the Office of State Lands and Investments, State Engineer's Office and the Department of Environmental Quality (DEQ).

The State Historic Preservation Office has responded verbally that the BLM appears to have admirably considered cultural resource issues.

We ask that you review the amount of state acreage within the project area so as to have an accurate count. 1

The Department of Environmental Quality (Air Quality Division) has provided you with extensive comments regarding the DEIS and the Air Quality Technical Report. Please feel free to contact DEQ personnel should you have questions regarding their comments. We ask that the attached State agency comments receive your due and favorable consideration.

Please continue to provide this office with either (4) four hard copies or electronic copy (submit to SPC@state.wy.us) of continued information for review and distribution to interested agencies. Thank you for the opportunity to comment.

Sincerely,

Tracy Williams
Tracy J. Williams
Policy Analyst

TJW
Enclosures: (3)

Office of State Lands and Investments
Department of Environmental Quality
State Engineer's Office

TTY: 777-7860 PHONE: (307) 777-7434 FAX: (307) 632 3909

Office of State Lands and Investments
Funding Wyoming Public Education

122 West 25th Street
Cheyenne, WY 82002
Phone: (307) 777-7331
Fax: (307) 777-5400
slfmail@state.wy.us

Dave Freudenthal
Governor

Lynne Boomgaarden
Director

June 23, 2003

State Planning Coordinator's Office
Herschler Building, 1East
122 West 25th Street
Cheyenne, Wyoming 82002

Re: SPCO ID# 2000-068
Desolation Flats Natural Gas Development Project
Draft Environmental Impact Statement

Dear Sir/Madam/Staff:

The staff of the Office of State Lands and Investments has reviewed the captioned Draft Environmental Impact Statement (DEIS) and offers the following comments relative to the proposed action insofar as it pertains to the mission of this office.

The proposed action articulated in the DEIS appears to be a well-balanced assessment of the environmental and economic issues surrounding the potential for development. However, review of the document and our records indicate that the State has significantly more acreage within the townships and ranges embracing the project boundary, most of which is TGA exchange acreage (no state surface), than enumerated in the document. 1

Currently, the State has 21,320 acres under lease for oil and gas, 9% of the total project acreage. As such, we ask that (1) assessment for actions within the project area provide proportional deference to the State's desire to develop it minerals; and (2) cumulative actions under the ROD, insofar as federal development proceeds, do not collectively serve to impede development of State minerals within the project area. 2

We appreciate this opportunity to comment. If we may be of further assistance, please do not hesitate to contact this office.

Very truly yours,

Lynne Boomgaarden
Lynne Boomgaarden
Director

LETTER 105 cont'd

State Engineer's Office

HERSCHLER BUILDING, 4-E CHEYENNE, WYOMING 82002
(307) 777-7354 FAX (307) 777-5451
seoleg@state.wy.us

DAVE FREUDENTHAL
GOVERNOR

PATRICK T. TYRRELL
STATE ENGINEER

June 20, 2003

To: Wyoming State Clearinghouse
State Planning Coordinator's Office
Herschler Building, 1 East
Cheyenne, WY 82002-0600

From: John W. Shields, Interstate Streams Engineer John W Shields
For
Patrick T. Tyrrell, Wyoming State Engineer

RE: Desolation Flats Natural Gas Development Project
OFLP PROJECT ID#: 2000-068

The State Engineer's Office has conducted its review of the subject document referred to this agency for review and comment and does not have any comments to provide. Thank you for the opportunity to review this project. 3

Surface Water
(307) 777-7354

Ground Water
(307) 777-6163

Interstate Streams
(307) 777-6151

Board of Control
(307) 777-6178

The State
of Wyoming

Dave Freudenthal, Governor

Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH	ABANDONED MINES	AIR QUALITY	INDUSTRIAL SITING	LAND QUALITY	SOLID & HAZ. WASTE	WATER QUALITY
(307) 777-7758	(307) 777-6145	(307) 777-7391	(307) 777-7368	(307) 777-7756	(307) 777-7752	(307) 777-7781
FAX 777-3610	FAX 777-6462	FAX 777-5616	FAX 777-6937	FAX 777-5864	FAX 777-5973	FAX 777-5973

June 27, 2003

Through: Lynn Simons, State Planning Coordinator

Mr. John Spehar
Bureau of Land Management
Rawlins Field Office
1300 N. Third St.
PO Box 2407
Rawlins, WY 82301

RE: Desolation Flats Draft Environmental Impact Statement and Air Quality Technical Reports

Dear Mr. Spehar:

The Air Quality Division of the Wyoming Department of Environmental Quality has reviewed the Draft Environmental Impact Statement and the Air Quality Technical Reports for the Desolation Flats Natural Gas Development Project. The Air Quality Divisinn has noted concerns regarding outdated information due to the extensive length of time between the air quality analysis and release of the DEIS for comment. Since the air quality analysis had been completed, the Air Quality Division issued ambient air quality standards for O_3 and $PM_{2.5}$. In addition, background concentrations for visibility and criteria pollutants disclosed in the "Affected Environment" section can be updated. Attached you will find the Air Quality Division's specific comments. 4

During review of the DEIS and the Near-field and Far-field Air Quality Technical Report, the Division found inconsistencies between results reported in the two documents. Differences were found in the project specific results and the cumulative results for ambient NO_2 concentrations, visibility impacts and acid deposition impacts. These inconsistencies must be corrected for the FEIS and the Final Air Quality Technical Reports.

If you should have any questions regarding the comments, please feel free to contact this office.

Sincerely,

Darla J. Potter

Darla J. Potter
Visibility, Smoke Management, & EIS Coordinator
Air Quality Division

Cc:Dan Olson, Air Quality Division Administrator
Cara Casten, Air Quality Division

LETTER 105 cont'd

Draft EIS Comments

General: Many areas of this document need to be revisited due to the extensive length of time between the Air Quality Analysis and DEIS completion and the release of the document for comment. 5

Chapter 1

Page 1-20, Table 1-6: The Air Quality Division actions are also required to implement the Desolation Flats Natural Gas Field Development Project, but are not listed in Table 1-6. Please add the Air Quality Division to this table with our Nature of Action to read "Issue New Source Review (NSR) permits to all stationary pollution emission sources, including compressor engines and portable diesel and gas generators." 6

Chapter 3

Page 3-19, Table 3-8 (1st occurrence – change throughout document): The listing of the Wyoming Ambient Air Quality Standards (WAAQS) is incomplete. Since these documents were written, the Division has updated the O_3 and $PM_{2.5}$ Standards. Please review the most current copy of the Wyoming Air Quality Standards and Regulations (WAQSR) to correct tables throughout the DEIS and Air Quality Technical Reports (AQTRs). A copy of the WAQSR is available electronically on our website (http://deq.state.wy.us/aqd/index.asp?pageid=72) 7

Page 3-19, Table 3-8 (1st occurrence – throughout document): The Division does not request that background concentration changes occur at this time, however the Division notes that several of the background criteria pollutant concentrations used in these documents are outdated. The following values are being used currently in Southwest Wyoming NEPA documents.

O_3: 1-hr. = 169 $\mu g/m^3$ (2nd high value of any year, 2000 used)
O_3: 8-hr. = 147 $\mu g/m^3$ (Average of 4th highest 8-hr average from each year)
O_3 source: WDEQ-AQD Green River Visibility Study Data June 10, 1998 to December 31, 2001
NO_2: annual = 3.4 $\mu g/m^3$ (average of all valid hours 2001)
NO_2 source: WDEQ-AQD Green River Visibility Study Data 2001
PM_{10}: 24-hr. = 40 $\mu g/m^3$ (99th percentile year 2001)
PM_{10}: annual = 16 $\mu g/m^3$ (arithmetic mean year 2001)
$PM_{2.5}$: 24-hr. = 13 $\mu g/m^3$ (98th percentile year 2001)
$PM_{2.5}$: annual = 5 $\mu g/m^3$ (arithmetic mean year 2001)
PM source: Emerson Building Cheyenne, Wy. Note: Data from the Cheyenne site has been compared by AQD with other sites that monitor "background" concentrations to confirm that these data are representative of "background" concentrations in the southern part of Wyoming. 8

Page 3-20, Paragraph 5: Please specify whether the data analyzed was IMPROVE aerosol data or IMPROVE transmissometer data. 9

Page 3-20 IMPROVE analysis: Due to the length of time between the air quality analysis and the release of this report, IMPROVE aerosol data has become available through 2001. Please update the visibility background data through the year 2001. 10

Page 3-21, Table 3-9 (1st occurrence – change throughout document): The term "baseline" has a specific definition associated with the Prevention of Significant Deterioration regulations that is not applicable in the context the term is used within the DEIS and AQTRs. The terms "baseline" and "background" are used interchangeably throughout the document, which is very confusing. In previous NEPA air quality analyses, incorrect used of the term "baseline" has resulted in misinterpretation of air quality impacts. Therefore, the Division would prefer that the term "baseline" be changed to "background" throughout the DEIS and AQTRs when discussing air quality. 11

Chapter 4

Page 4-13, Compression Emissions Section: Neither the DEIS nor the Emission Inventory AQTR provide enough information regarding the proposed compression sources for the Division to specifically evaluate emission rates used in the calculation of the compression emissions. This is of concern as the Best Available Control Technology (BACT) is a process not a number that is dependent on the technical and economic feasibility on control for a given compressor engine type. At the present time, the Air Quality Division's BACT process is resulting in emission rates that vary based on engine types that are controlled. Emission rates on average as a result of the BACT process for engines 100hp and greater are: 1.0 g/hp-hr NO_x, 0.5 g/hp-hr CO (lean burn), 2.0g/hp-hr CO (rich burn), less than or equal to 1.0 g/hp-hr VOC, and 0.07 g/hp-hr formaldehyde (lean burn) and 0.06 g/hp-hr formaldehyde (rich burn). Therefore, the emission rates used in the calculation of the gas compression emissions the CO is high and the VOC is low. Please specify the type and size of compressor engines assumed for this analysis. 12

Page 4-22, Project Near-Field Ambient Air Quality Impacts: There are inconsistencies between NO_2 results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 4-12 and 4-13 show results for Alternative A Near-Field Ambient Air Quality Impacts, the Total Project Impact concentrations are consistent with Tables 6-1 and 6-2 in the AQTR for all pollutants except NO_2. Please check these tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. 13

Page 4-25, Project Far-Field Ambient Air Quality Impacts: There are inconsistencies between NO_2 results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 4-14 and 4-15 show results for Alternative A Far-Field Ambient Air Quality Impacts, the Total Project Impact concentrations are consistent with Tables 6-3 and 6-4 in the AQTR for all pollutants except NO_2. Please check these tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. 14

Page 4-24, Visibility Impacts: Since the data set used for the visibility analysis differs from the data set reported in Chapter 3, an explanation should be added as to why the two different data sets are used. In addition, the source of the data needs to be cited in this paragraph (i.e. the mean of the 20% cleanest days from IMPROVE Aerosol data). 15

Page 4-27, Predicted Visibility Impacts from the Project: There are inconsistencies between results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 4-16 shows results for Alternative A Predicted Visibility Impacts from the Project, the Maximum Visibility Impacts reported are inconsistent with Table 6-9 in the AQTR. Please check these tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. 16

Page 4-28, Potential Acid Deposition Impacts from the Project: There are inconsistencies between results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 4-17 shows results for Alternative A Potential Acid Deposition Impacts, the change in ANC and Percentage of LAC is inconsistent with Table 6-7 in the AQTR. Please check these tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. 17

Page 4-29, Additional Mitigation Measures, First sentence: The WDEQ-AQD is the regulatory authority regarding air quality within the State of Wyoming. Therefore, please add the following sentence to the first paragraph "The following potential mitigation measures could reduce impacts from emissions. The appropriate level of control will be determined and required by the WDEQ-AQD during the pre-construction permit process." 18

Page 4-29, NO_x Mitigation, 1st bullet: The WDEQ-AQD is the regulatory authority regarding air quality within the State of Wyoming. Therefore, the BLM cannot restrict/place caps on the number of wells drilled based on air quality impacts and this bullet should be deleted from the DEIS. 19

Page 4-29, NO_x Mitigation, 3rd bullet: Please modify this bullet to reflect that BACT is a process not a number. "In the permitting of compressor engines, the WDEQ-AQD always requires application of the Best Available Control Technology (BACT) process. Emission rates on average as a result of the BACT process for compressor engines 100hp and greater are: 1.0 g/hp-hr NO_x. With the application of non-selective catalytic reduction, NO_x emissions for some compressor engines can be reduced to 0.7 g/hp-hr." 20

Page 4-30, Mitigation Monitoring, 2nd bullet: The WDEQ-AQD currently has an emission tracking agreement with the BLM within the project area. The *Letter of Agreement for Tracking Nitrogen Oxide Emissions* (June 1997) was a provision within the Moxa Arch and Fontenelle Environmental Impact Statements to track changes in total NO_x emissions within the airshed of the BLM Rock Springs District. In April of 2000 the agreement was amended. The *Amended Letter of Agreement for Tracking Nitrogen Oxide Emissions* called for annual reports tracking changes in NO_x emissions beginning January 1, 1996 to October 31 of the reporting year. 21

Chapter 5

Page 5-6, 5.3.2.1 Cumulative Emissions Inventory, 1st Paragraph: The correct name for our agency is the Air Quality Division please remove the word "Control" from our name. 22

Page 5-6, 5.3.2.1 Cumulative Emissions Inventory, 3rd Paragraph: Please add a sentence about the moderate and conservative RFD emissions scenarios and which results are reported as cumulative impact in the DEIS. 23

Page 5-10, Cumulative Far-Field Ambient Air Quality Impacts: There are inconsistencies between NO_2 results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 5-3 and 5-4 show results for Cumulative Far-Field Ambient Air Quality Impacts, the Cumulative Impact concentrations are consistent with Tables 6-5 and 6-6 in the AQTR for all pollutants except NO_2. Both the conservative and moderate scenario results in the AQTR differ from the DEIS. Please check these tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. 24

Page 5-11, Section 5.3.2.3 Cumulative Visibility Impacts: There are inconsistencies between results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. The results disclosed in the paragraph differ from those written about in the AQTR on page 101. Table 5-5 shows the Summary of Cumulative Visibility Impacts, the days above a 0.5 and 1.0 change in deciviews and the maximum deciview change results are all inconsistent with Table 6-10 in the AQTR. Both the conservative and moderate results in the AQTR differ from the DEIS. In addition, the tables specifying days greater than 0.5 change in deciviews contain different results and a different number of days above the 0.5 change in deciviews (25 days in the DEIS versus 48 days in both scenarios in the AQTR). Please check these tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. 25

Page 5-13, Potential Cumulative Acid Deposition Impacts: There are inconsistencies between results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 5-7 shows a Summary of Potential Cumulative Acid Deposition Impacts; the change in ANC and Percentage of LAC is inconsistent with Table 6-8 in the AQTR. Please check these Tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. 26

LETTER 105 cont'd

Air Quality Technical Documents Comments

Emission Inventory

Page 6, 3 Phase Separator and Glycol Regeneration Heaters, 1st paragraph: Please document the source of the seasonal emission weighting factors (172% and 28%). 27

Page 9, Section 2.3 Compression Emissions and Calculation #18, Gas Compression Emission and Processing: Neither the DEIS nor the Emission Inventory AQTR provide enough information regarding the proposed compression sources for the Division to specifically evaluate emission rates used in the calculation of the compression emissions. This is of concern as the Best Available Control Technology (BACT) is a process not a number that is dependent on the technical and economic feasibility on control for a given compressor engine type. At the present time, the Air Quality Division's BACT process is resulting in emission rates that vary based on engine types that are controlled. Emission rates on average as a result of the BACT process for engines 100hp and greater are: 1.0 g/hp-hr NO_x, 0.5 g/hp-hr CO (lean burn), 2.0g/hp-hr CO (rich burn), less than or equal to 1.0 g/hp-hr VOC, and 0.07 g/hp-hr formaldehyde (lean burn) and 0.06 g/hp-hr formaldehyde (rich burn). Therefore, the emission rates used in the calculation of the gas compression emissions the CO is high and the VOC is low. Please specify the type and size of compressor engines assumed for this analysis. 28

Sub-grid Analysis Technical Report

Page 3, Table 1-1 (1st occurrence – change throughout document): The listing of the Wyoming Ambient Air Quality Standards (WAAQS) is incomplete. Since these documents were written, the Division has updated the O_3 and $PM_{2.5}$ Standards. Please review the most current copy of the Wyoming Air Quality Standards and Regulations (WAQSR) to correct tables throughout the DEIS and AQTR. A copy of the WAQSR is available electronically on our website (http://deq.state.wy.us/aqd/index.asp?pageid=72) 29

Page 3, Table 1-1 (1st occurrence – throughout document): The Division does not request that background concentration changes occur at this time, however the Division notes that several of the background criteria pollutant concentrations used in these documents are outdated. The following values are being used currently in Southwest Wyoming NEPA documents.
O_3: 1-hr. = 169 $\mu g/m^3$ (2nd high value of any year, 2000 used)
O_3: 8-hr. = 147 $\mu g/m^3$ (Average of 4th highest 8-hr average from each year)
O_3 source: WDEQ-AQD Green River Visibility Study Data June 10, 1998 to December 31, 2001 30
NO_2: annual = 3.4 $\mu g/m^3$ (average of all valid hours 2001)
NO_2 source: WDEQ-AQD Green River Visibility Study Data 2001
PM_{10}: 24-hr. = 40 $\mu g/m^3$ (99th percentile year 2001)
PM_{10}: annual = 16 $\mu g/m^3$ (arithmetic mean year 2001)
$PM_{2.5}$: 24-hr. = 13 $\mu g/m^3$ (98th percentile year 2001)
$PM_{2.5}$: annual = 5 $\mu g/m^3$ (arithmetic mean year 2001)

PM source: Emerson Building Cheyenne, Wy. Note: Data from the Cheyenne site has been compared by AQD with other sites that monitor "background" concentrations to confirm that these data are representative of "background" concentrations in the southern part of Wyoming. 30

Page 8, paragraph 2, 1st sentence: Please replace the word "particular" with "particulate". 31

Page 9, 1st sentence: Please replace the word "particular" with "particulate". 32

Page 18, paragraph 3: Please document the reasoning or source behind the assumptions stated in this paragraph. 33

Near and Far Field Air Quality Technical Report 34

Page 2, report organization: For consistency, please change the reference to "Chapter 4" to "Section 4". 35

Page 30, Section 3.6, bulleted counties: Uinta County is misspelled. 36

Page 32, Figure 3-3: "Emission" is misspelled in the title. 37

Page 80, Table 5-3: Please expand this table to show the same information as Table 5-2. 38

Page 93, Project Near-Field Ambient Air Quality Impacts: There are inconsistencies between NO_2 results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 4-12 and 4-13 show results for Alternative A Near-Field Ambient Air Quality Impacts, the Total Project Impact concentrations are consistent with Tables 6-1 and 6-2 in the AQTR for all pollutants except NO_2. Please check these Tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. 39

Page 95, Project Far-Field Ambient Air Quality Impacts: There are inconsistencies between NO_2 results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 4-14 and 4-15 show results for Alternative A Far-Field Ambient Air Quality Impacts, the Total Project Impact concentrations are consistent with Tables 6-3 and 6-4 in the AQTR for all pollutants except NO_2. Please check these Tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. 40

Page 96, Cumulative Far-Field Ambient Air Quality Impacts: There are inconsistencies between NO_2 results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 5-3 and 5-4 show results for Cumulative Far-Field Ambient Air Quality Impacts, the Cumulative Impact concentrations are consistent with Tables 6-5 and 6-6 in the AQTR for all pollutants except NO_2. Both the conservative and moderate scenario results in the AQTR differ from the DEIS. Please check these tables 41

LETTER 105 cont'd

for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR.

Page 98, Potential Acid Deposition Impacts from the Project: There are inconsistencies between results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 4-17 shows results for Alternative A Potential Acid Deposition Impacts, the change in ANC and Percentage of LAC is inconsistent with Table 6-7 in the AQTR. Please check these Tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. **42**

Page 99, Potential Cumulative Acid Deposition Impacts: There are inconsistencies between results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 5-7 shows a Summary of Potential Cumulative Acid Deposition Impacts; the change in ANC and Percentage of LAC is inconsistent with Table 6-8 in the AQTR. Please check these Tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. **43**

Page 100, Predicted Visibility Impacts from the Project: There are inconsistencies between results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. Table 4-16 shows results for Alternative A Predicted Visibility Impacts from the Project, the Maximum Visibility Impacts reported are inconsistent with Table 6-9 in the AQTR. Please check these Tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. **44**

Page 5-11, Section 5.3.2.3 Cumulative Visibility Impacts: There are inconsistencies between results reported in the DEIS document and results reported in the Near-field and Far-field AQTR document. The results disclosed in the paragraph differ from those written about in the AQTR on page 101. Table 5-5 shows the Summary of Cumulative Visibility Impacts, the days above a 0.5 and 1.0 change in deciviews and the maximum deciview change results are all inconsistent with Table 6-10 in the AQTR. Both the conservative and moderate results in the AQTR differ from the DEIS. In addition, the tables specifying days greater than 0.5 change in deciviews contain different results and a different number of days above the 0.5 change in deciviews (25 days in the DEIS versus 48 days in both scenarios in the AQTR). Please check these tables for correctness, if there is a reason for the different results it needs to be clearly disclosed in the DEIS as well as the AQTR. **45**

LETTER 106

Kenneth Kreckel
Oil & Gas Geosciences

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Casper, Wyoming
Phone: (307)235-3505
email:
kreckel1@yahoo.com

Thursday, June 26, 2003

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Re:DEIS, Desolation Flats Natural Gas Exploration and Development Project

Dear Mr. Spehar :

After a careful review of the DEIS, Desolation Flats Natural Gas Exploration and Development Project, I have prepared the attached comments recommending deferring action at this time, or adopting Alternate B-No Action. These comments can be summarized as follows:

- No plan was presented. There are no specific locations for any of the propose wells, pipelines, producing facilities, etc. It is not possible to assess the environmental impacts of conceptual locations.
- A case by case consideration of this development is the only appropriate approach considering the geology and nature of the exploration and development for these tight gas sands. **1**
- The use of multi-well pads should be required. This alternative is not adequately examined in the DEIS. Multi-well pads are technically and economically feasible and will significantly reduce the surface impacts of this development. A dubious estimate of higher costs, referencing examples based on shallower depths, is used to justify rejecting this technology. No cost/benefi analysis of lessening the surface impacts is presented.
- Current and emerging technologies, notably the hydraulic fracturing of horizontal wells, which have a high potential for reducing the impact of this

development, especially when considering the long time frames envisioned [20 to 40 years], were not adequately addressed.

- Directional and horizontal wells can be used to drain reserves under currently protected sites, as well as proposed NSO areas. The DEIS should specifically address this issue.
- Additional time to examine individual surface impacts, as well as the Proposed Adobe Town Wilderness, is necessary, especially in view of the factors above. 1
- Development of these gas sands can continue under existing decisions. Exploitation of this valuable natural resource will not be unduly impeded.

I am a geophysicist and former Exploitation Manager with thirty years experience in oil & gas exploration and development. [see attached resume] Much of this experience was gained in tight gas sand developments very similar to Desolation Flats. As Exploitation Manager of the Southern Region [Tyler, Texas] with Marathon Oil Company, I was directly responsible for the development of several tight gas sand fields analogous to the subject development, and have drilled and completed over a hundred wells in such sands. Several of these wells were drilled directionally and subsequently hydraulically fractured with great success. In addition, I have extensive experience with horizontal wells. My background includes several years of work in Wyoming as well, and I am very familiar with the geology of the Greater Green River Basin.

This DEIS is premature and ill defined. I urge any action be deferred at this time until a "clearer, more definable full field development scenario is presented by the Operators."

Sincerely,

Kenneth Kreckel

DESOLATION FLATS PROJECT AREA

Reasons in Support of Deferring Action, or Alternate B-No Action

The Desolation Flats DEIS is Only Conceptual

The proposal is a concept, not a plan. There are no specific locations for wells, pipelines or other facilities identified. The Desolation Flats DEIS states in Chapter 1:

> "This DEIS analyzes the effects of well pad locations, access roads, production facilities, pipelines, and other facilities associated with natural gas development on resources and land use within the project area."

> "Factors considered during the environmental analysis process regarding the natural gas development project include the following:
> • The location of environmentally suitable well pad locations, access roads, pipelines, and other production and ancillary facilities that best meet other resource requirements and minimize surface resource impacts yet honor the lease rights within the project area.
> • A determination of impacts resulting from the proposed action and alternatives on the human environment, when conducted in accordance with applicable regulations and lease
> stipulations, and the development of mitigation measures necessary to avoid or minimize these impacts."

Since the document fails to present any locations of environmentally suitable well pad locations, etc., and no definable plans for field development, the 'No Action' alternative should be adopted, or, in the words of the DEIS, to:

> "defer any action at this time until a clearer, more definable full field development scenario is presented by the Operators."

Geology of the Area Precludes All Alternatives Except B-No Action

The nature of the geology makes it impossible to locate the number of wells envisioned in the DEIS. Because production is controlled by stratigraphy [Hendricks, 1995], and the sandstone reservoirs occur as isolated, separate, overpressured compartments [Surdam, 1995], it is difficult to predict 'sweet spots' in these stratigraphic reservoirs except with nearby well control. The results of each new well will significantly impact the location of the subsequent wells. Hence, the development of these reservoirs will occur along trends which can only be defined on a well-by-well basis. It follows that any long range plan involving hundreds of wells cannot be specific.

Alternative B 'No Action' does allow the drilling of an estimated 57 development wells under existing decisions. Additionally the document estimates another 21 wells outside of these areas will be drilled. As stated in the DEIS:

> "Additional infrastructure necessary to support existing wells within the DFPA and future wells drilled under the No Action Alternative would be considered on a case-by-case basis."

Obviously, the results of these wells will determine the course of future development. If such development is warranted, it can be considered at that time. Therefore, due to the geology of the area, a case-by-case consideration of wells and other facilities is the only appropriate alternative.

Alternatives for Multi-Well-Single Pad Were Not Adequately Addressed

The rejection of the multi-well well pad alternative, where 2 to 8 wells could be drilled per each surface location, was largely based on the experience of one operator in Wamsutter Field. The DEIS states that the technical limits of directional drilling were reached at about 50 degree deviation. Since the deviations drilled in the Wamsutter case ranged from 15 to 32 degrees, technical capability was not a limiting factor. Essentially the justification to reject this alternative was simply cost. Location costs were cited to be 10 to 20% higher and drill times 30 to 40% higher.

There are some problems with the Wamsutter case, especially the magnitude of the angles. The Wamsutter Field, located on the Wamsutter Arch, produces from significantly shallower depths, up to 5000' less than Desolation Flats [map, Surdam, 1995]. Due to its location near the deepest portion of the Washakie Basin, drilling depths at Desolation Flats range from 9000' to 14500'. Using the average vertical displacement of 1425' from the Wamsutter example, corresponding angles will range from 5 to 10 degrees at Desolation Flats, far less than the 15 to 32 degrees cited. Deviations of this magnitude are so small as to be considered near vertical, and should present no significant completion problems.*

Due to these lower deviations, any increase in costs associated with the use of multi-well pads will be significantly less than the undocumented 20% cited in the DEIS. Even if we assume the 20% increase is correct, this need not translate to a 20% in costs *over the life of the project.* Three other factors will lower costs:

- Considering the large number of wells envisioned in the DEIS, it is reasonable to assume economies of scale will reduce these costs.
- Given the project length, 20 to 40 years, it is extremely likely that these costs, over time, will further decrease as technology provides increased efficiency.
- The inevitable increase in the price of natural gas over this time frame, as the resource becomes more scarce, will also favorably impact the economics.

Therefore, in the Desolation Flats area, deviated 'slant' wells represent an economically viable means to produce reserves from under No Surface Occupancy leases. This also points the way for an economically sound utilization of multi-well pads.

In a study of the Almond Formation in Echo Springs Field in the Green River Basin, near Desolation Flats, Iverson et al [1995] concluded "With the confirmation of Standard Draw draining numerous stacked reservoirs, continued focus on vertical or slant hole completions may be justified." They go on to state "Considering the additional cost of horizontal drilling, economics likely favor vertical or slant hole completions." Note that vertical and slant holes are treated as equivalent, as distinct from horizontal wells. This study focused on the Amoco 254 B-2H well, comparing results from the slant hole portion of the well, which was hydraulically fractured, and the horizontal well, which in 1995, was not. In this case, artificially fractured slant wells were found to be economic.

Slant holes may be justified from a geologic basis as well. In this basin, production is controlled by stratigraphy [Henricks, 1995]. Surdam et al [1995] state: "Sandstone bodies within the overpressured shale section are subdivided stratigraphically and diagenetically into relatively small, isolated, gas saturated, anomalously pressured compartments." Economic production depends on intersecting as many as these 'sweet spots' as possible. These bodies may not vertically coincide. Therefore, slant holes hold the potential of intersecting more of these bodies, thereby increasing production from a single wellbore.

I recommend that the use of multi-well pads be mandated for this development. Assuming 640 acre spacing, a single well pad could service four wells, using deviated wells of about 2000' vertical displacement [10 to 16 degree deviations]. Obviously this would provide a large decrease in the number of locations, and a corresponding decrease in roads and pipelines, thereby drastically reducing the surface impacts. Even if this approach would result in some increase in *today's* costs, although the undocumented 20% cited is likely overstated, this consideration should not be the overriding determinant. The resultant large scale protection of the environment will justify those costs.

Current and Future Advances in Technology Have the Potential to Impact This Development

Because of the long time frame envisioned in this DEIS, it is reasonable to predict that advances in technology which can impact this development plan will occur. The spectacular advances in horizontal drilling, artificial fracturing, and seismic over the last twenty years are well known.

---

*Moreover, since the geologic dip on the flanks of the basin range from 8 degrees to 15 degrees [Love, 1970], even vertical wells will encounter similar angles relative to the stratigraphy. It is well understood in the industry that unsteered 'vertical' wells tend to drift updip, effectively reaching deviations up to the magnitude of the geologic dip. Hence, in these cases, even vertical wells are not truly vertical, but instead may naturally 'deviate' as much as the 5 to 10 degrees suggested for Desolation Flats.

Work continues in these and other fields which will have a direct impact on the development of this area. To quote an especially pertinent one:

> **Table Rock Field, Frontier Formation**
>
> "Union Pacific Resources' Rock Island 4-H well, located on the north plunge of Table Rock Field, Sweetwater County, Wyoming, was the culmination of a project with the US Department of Energy (DOE) Federal Energy Technology Center (FETC) and Gas Research Institute (GRI). The goal was to find technologies to produce significant tight gas resources from southwestern Wyoming.
>
> Milestones of the project include:
>
> Reducing the drilling time and cost for deep vertical wells by less than half.
>
> Discovering one of the deepest horizontal tight gas sandstone wells in the world (14,950 ft TVD).
>
> Reaching one of the world's deepest horizontal cores.
>
> Maintaining one of the highest gas flow capacities in the tight-gas Frontier Formation in Wyoming.
>
> Initiating future plans for a horizontal drilling effort.
>
> Horizontal drilling for low permeability gas allows large well spacings, improving per well recoveries and reducing the environmental impact. The Rock Island 4-H horizontal well reached 16,784 ft (14,950 ft TVD) in the Frontier formation at 270° F and 10,000 psi."

Tight gas sands generally require artificial fracturing to be economically productive. The main objection to the use of horizontal wells is the difficulty of applying artificial fracturing. This case, completed in 1995, illustrates that it can be done:

> **Halliburton Fractures World Record Well For Mobil New Natural Gas In Germany**
>
> "The Soehlingen Z-10 horizontal well, located about 40 miles southwest of Hamburg, was drilled into an extremely tight sandstone in the Rotliegendes formation to a vertical depth of 15,688 feet -- a world record for horizontal wells -- where it was deviated horizontally for 2,066 feet into the natural gas reservoir. Including the horizontal section, the well was drilled to a total depth of 18,860 feet.
>
> In addition to being the world's deepest horizontal well, the well set a world record for the deepest multiple fractures. Hydraulic fracturing was employed to improve the natural gas flow from the extremely low permeable rock. Halliburton's EuroFrac Team successfully completed a total of four hydraulic fractures along the horizontal section of the wellbore using a highly-efficient and environmentally- friendly fracturing system that included Halliburton's HyBor Gel fracturing fluids and its Liquid Gel Concentrate."

These two projects were successfully completed in onshore tight gas formations very similar in geology and depth to Desolation Flats. Together they illustrate that artificially fractured horizontal wells are technically feasible today. Moreover there is a high potential for advances in these technologies that will directly impact this area. Although the drilling and, more importantly, hydraulic fracturing of horizontal wells in tight gas sand formations are not yet commonplace, these two projects establish the likelihood that they will be more commonly utilized in the near future. As these, and other technologies, become generally available, the number of wells envisioned for Desolation Flats could be significantly reduced. It is imperative that decisions based on today's practices are not taken that effect the next 20 to 40 years. A case-by-case consideration of this development will allow for the consideration of these and other technologies as they become available, without unduly affecting the subject development. Indeed, the development of this area may ultimately benefit by the employment of more efficient technologies.

Directional Wells Can Be Used for the Protection of Currently Identified Sites

There are currently many areas proposed, for NSO status, crucial winter ranges and ACEC's, as well as mountain plover nesting concentrations. (please refer to the Biodiversity Conservation Alliance alternative for the Great Divide) In addition, 2-mile buffers for sage grouse leks and 1-mile buffers for raptor nests, (see DEIS pp 5-20--5-22) have been proposed.

As illustrated by the examples above, technology is available to drill and hydraulically fracture even horizontal wells in tight gas sands. Highly deviated and horizontal wells could be utilized to capture reserves under these protected areas. Horizontal wells have the potential to reach 2,000 to 4,000 feet from a surface location. Hydraulic fracturing of these wells can allow them to effectively drain a 640 acre area. Thus it is possible to produce reserves even under the two-mile buffers proposed. Although more costly, horizontal wells can achieve higher recoveries, so the economics regarding their use is not necessarily a prohibitive factor.

In addition, this area may be an excellent candidate for industry-government cooperative ventures, similar to the Table Rock example above. Working together, methods can be found to achieve the economic exploitation of the natural gas reserves without adversely affecting the environment.

Time for Study of Potential Protected Areas

The No Action alternative will allow further study of ongoing environmental protection efforts such as the Adobe Town Potential Wilderness. There are other efforts underway, for example, the Powder Rim ACEC and big game crucial ranges, seeking NSO strips on leases. It would be premature to allow a conceptual plan to interfere with these efforts. In any case, it is essential that specific locations be presented to allow their impacts to be accurately assessed, and suitable alternatives considered. Obviously one cannot assess the impact of a conceptual well location,

LETTER 106 cont'd

one that has no definition in space or time. This assessment needs to occur at the time the well locations are firm.

Development Will Continue Under the No Action Alternative

Deferring action will not preclude current development. As stated in the DEIS, up to 78 wells may be drilled under the No Action alternative. Hence, development of this valuable natural resource will not be impeded, and continued exploitation of these natural gas reserves can continue.

LETTER 107

bryan.wyberg@honeywell.com
06/30/03 03:59 PM

To: DesFlats_WYMail@blm.gov
cc: bryan.wyberg@honeywell.com
Subject: Conservation Must Be Better Integrated Into Desolation Flats Project Area Plans

June 30, 2003

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301
DesFlats_WYMail@blm.gov

Cc: Secretary Gale Norton
U. S. Department of the Interior
1849 C Street NW
Washington, DC 20240

Senator Craig Thomas
United States Senate
307 Dirksen Senate Office Building
Washington, DC 20510

Dear Mr. Spehar:

I am writing to provide official comments on the Draft Environmental Impact Statement for the Desolation Flats Project Area. I have visited this region of Wyoming, and so I am familiar with the type of landscape and lands contained in the Desolation Flats Project Area. I love the remoteness of the lands and the beauty of the landscape. I believe that this Project Area has a now-rare character which evokes the legendary Old West. It is my belief that future generations should also be able to experience this same sensation, and to feel the same awe at the open expanse of this section of the Great Divide.

However, the only way to ensure that those future citizens will be given this opportunity is if the BLM today chooses to manage these lands in a more protective manner. I am a supporter of the full 92,000+ acre Adobe Town Wilderness Study Area expansion proposal as put forward by citizen groups such as the Wyoming Outdoor Council. I know that the BLM is familiar with this proposal. I am very concerned that a portion of this expanded Wilderness Study Area proposal is included in the boundary of the Desolation Flats Project Area. My first and foremost request is that all lands within the full citizen's Adobe Town Wilderness Proposal be excluded from any and all forms of development and resource extraction. 1

Second, the name given to the Project Area is a misnomer. These lands are not "desolate," but are in fact prime habitat for big game wildlife as well as the small, though very important species, prairie dogs. Wild animal range lands and migration corridors occur within the Project Area. I ask that the BLM be sensitive to the existence of the patterns of use by wildlife of these lands. Management of this area, and any development permitted, must fully account for the wildlife. Prairie dog colonies must not be disturbed, and should be used for introduction of endangered black-footed ferrets. Note that the long-term economic value of the big game herds and associated recreation far exceeds that of the short-term energy extraction profits. For the economic benefit of Wyoming citizens, the wildlife should come first. The BLM must place the continued viability of any wildlife habitat as its top priority, above resource extraction. 2

It would be a travesty to learn that the extractive industries are given free rein in the Desolation Flats Project Area, as they have been in other regions of Wyoming. The Great Divide region as a whole is being eyed greedily by the energy industry supporters of the Bush Administration. They wish for an unbalanced policy of lands use management. Yet this is a region of wild beauty and wildlife habitat that many citizens want to see preserved for future generations. Thus the BLM is obligated to take a truly balanced management policy for this Project Area. 3

To be balanced, substantial portions of these lands must be preserved as wilderness, just as substantial areas will be given over to resource extraction. This region must be acknowledged by the BLM as special, and large portions be left free from devastation. I believe that the BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains. Also to be withdrawn from development are remaining roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and land within three miles of sage grouse leks or within one mile of active raptor nests. In sum, the BLM plan must prohibit drilling in environmentally sensitive areas, including all wilderness quality lands, roadless lands, and important wildlife habitats. 4

The BLM plans should also outline how energy development will proceed on the lands in which it is allowed. There must be strict permitting and oversight controls. Environmental protection must be strong and enforced adequately in those areas under development. Drill pads must be concentrated so as to impact the least amount of acreage. Directional drilling techniques must be required, rather than a multiplication and concentration of the number of drill pads. I expect that the BLM will be a good steward of my lands when they are in the use of private interests for their economic gain. I expect the BLM will allow only the least damaging drilling techniques and development patterns. 5

A major concern of mine is that the BLM preferred plan does not go into the detail needed to provide for a sufficient analysis of the impacts of extraction projects. For instance, the DEIS states that there will be 385 wells drilled and about 500 miles of new roads constructed under the preferred plan, but does not identify the locations of either the wells or the roads. Without these crucial details, impacts to wildlife, recreation, and visual quality of the area cannot be accurately described. The BLM must ensure limited impacts to wildlife and wilderness recreation resources by providing a sufficient analysis of the impacts of all proposed developments in the Project Area. 6

In summary, I believe that conservation principles must be better integrated into the final management alternative selected by the BLM. I support the development of a Conservation Alternative to be selected as the preferred alternative of the Final Environmental Impact Statement for the Desolation Flats Project Area. We need a new alternative designed to mandate a land management plan that has a balance of managed uses, and is not a sacrifice of this area to the extractive industries. It should focus on the conservation of the natural resources of the area, its wildlife, its beauty, and its wilderness characteristics. Only this will fulfill the goal that this area is passed to future generations untrammeled. This is what future generations deserve of us. 7

Sincerely,

Bryan Wyberg
12854 Raven Street NW
Coon Rapids, MN 55448
bryan.wyberg@honeywell.com

LETTER 108

CASPER WY 826
PM
27 JUN
2003

Ms. Betty A. Young
4440 S Poplar St Unit 2
Casper WY 82601-6139

Please include full name and address

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Virginia Apgar Physician
1909 1974 USA 20

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wildnerness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
- **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Signature: Betty A. Young

LETTER 109

PAT Rollison
PO# 1281
SARATOGA Wy 82331
Please include full name and address

SARATOGA WY JUN 27 PM 2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

BUREAU OF LAND MANAGEMENT
JUN 30 2003

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- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wildnerness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
- **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature: Patrick Rollison

LETTER 110

Mr. Louis F. Barto
2132 Carson St
Rock Springs, WY 82901-6742
Please include full name and address

ROCK SPRINGS PM 2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

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Signature: Louis F Barto

LETTER 111

RALPH GARRETT
817 FLINT ST
LARAMIE WY 82072
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Dear Mr. Spehar, Leave something for the rest of us.

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests. 1
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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature: Ralph Garrett

LETTER 112

Guen States
PO Box 596
Saratoga, WY 82331-0596
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

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Signature: Guen States

LETTER 113

Mr. Kenneth Becker
P.O. Box 1335
Pinedale, WY 82941

Please include full name and address

ROCK SPRINGS, WY 82901
PM
27 JUN
2003

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301%2407 B022

Dear Mr. Spehar,

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1

Signature: Kenneth Becker (Kenneth Becker)

LETTER 114

Mr. William C. Guenther
1515 E. Kearney St.
Laramie, WY 82070

Please include full name and address

CHEYENNE WY 820
PM
27 JUN
2003

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

Dear Mr. Spehar,

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1

Signature: William C Guenther

LETTER 115

Jennifer Wade
1813 Skyline
Laramie, WY 82070
Please include full name and address

CHEYENNE WY 820
PM
2 JUN
2003

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: Jennifer Wade

LETTER 116

Mr. Ken L. Driese
500 S 11th Street
Laramie, WY 8207(12
Please include full name and address

CHEYENNE WY 820
PM
2 JUN
2003

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature:

CHEYENNE WY 820
PM
13 NOV
2002

LETTER 117

Airica Staley
2701 W Stuart St
Fort Collins, CO 80526-1134

Please include full name and address

ISS#3 DENVER CO. P&DC

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: ______________________

LETTER 118

CHEYENNE WY 820
PM

Michael Mann
1104 South 5th Street
Apartment B
Laramie, WY 82070

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

CHEYENNE WY 820
PM

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Signature: ______________________

LETTER 119

Cleo & Mary Sealing
1670 N ½ Rd
Fruita CO 81521
Please include full name and address

GRAND JUNCTION CO 815
PM
27 JUN
2005

RECEIVED
JUN 30 2005
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301#2407

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Signature: Cleo & Mary Sealing

LETTER 120

Josh & Leslie Thompson
1905 E. Hancock St Apt C
LARAMIE, WY 82072-2950
Please include full name and address

RECEIVED
JUN 30 2005
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature:

CHEYENNE WY

LETTER 121

Teresa Ukrainetz
1731 Downey St.
Laramie, WY 82072
Please include full name and address

CHEYENNE WY 820
PM
JUN
2003

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: ____________________

LETTER 122

Jeff Lockwood
2069 N 16th St
Laramie, WY 82072-1904
Please include full name and address

CHEYENNE WY 820
PM
JUN
2003

RECEIVED
JUN 30 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: ____________________

LETTER 123

Duplicate of Letter 164

eog resources

EOG Resources, Inc.
600 Seventeenth Street
Suite 1100N
Denver, CO 80202
(303) 572-9000
Fax: (303) 824-5400

June 30, 2003

Mr. John Spehar, Project Coordinator
Bureau of Land Management
Rawlins Field Office
1300 North Third Street
Rawlins, WY 82301

RE: Desolation Flats Natural Gas Field Development Project Draft Environmental Impact Statement

Dear Mr. Spehar:

EOG Resources (EOG) submits the following comments with respect to the Desolation Flats Natural Gas Field Development Project Draft Environmental Impact Statement (DSFNGF DEIS) to the Bureau of Land Management (BLM). EOG is committed to the responsible production of oil and gas resources within the Desolation Flats natural gas producing area of south-central Wyoming. EOG and its employees are committed to abiding by the Operator-proposed mitigation measures, as detailed in Section 2.5.2.11, developed to ensure protection of the environmental resources in the Project Area.

Alternatives Development:

EOG supports the selection of alternatives analyzed in the DFNGF DEIS. The exclusion of an alternative that could be considered a sort of "natural resource conservation" alternative, called the "directional drilling" alternative in the DEIS, quite properly reflects the resource protection measures already included within the Proposed Action. The reasons given to justify the exclusion of mandated directional drilling are accurate. The Proposed Action includes feasible and economic measures that would be taken by operators to reasonably minimize surface disturbance and includes the use of multi-well pads.

Operator-Proposed Mitigation Measures:

The employment of the Operator-proposed mitigation measures in addition to the BLM's Standard Mitigation Measures would provide an adequate measure of environmental resource protection such that additional mitigation measures would not be needed. 1

Air Quality:

The following comments are directed to the analysis of impacts to air quality.

- Impacts to air quality were measured against Colorado ambient air quality standards. Colorado lies south of the Project Area and is the nearest adjacent state. The DFNGF EIS states, however, the winds are predominantly from the south to the southwest (DFNGF DEIS, page 3-13). Prevailing winds would carry emissions associated with well development away from the state of Colorado, making impacts to Colorado's air quality unlikely. Its inclusion is the analysis is unnecessary. 2
- A number of the additional mitigation measures detailed in Section 4.2.5 are included in the DFNGF DEIS under Project-wide Mitigation Measures in Section 2.5.2.11. These include the commitments to use water or other approved dust suppressants on unpaved roads to reduce fugitive dust and the voluntary reduction of vehicle traffic speeds. Inclusion in Section 4.2.5 is redundant. 3
- Other additional mitigation measures detailed in Section 4.2.5 are irrelevant because of their impracticality. They include the replacement of diesel-fueled engines on drill rigs (described in the DFNGF DEIS as having no commercial substitute) and the construction of central tank batteries. Central tank batteries may not be feasible in some areas because of the distance between wells, which is governed by spacing rules and projected to be between two to four wells per section. Using electric engines on compressors would require a source of electricity at those locations where compressors are needed. The installation of aboveground electric power lines would be visually obtrusive and not economically feasible. 4
- Some additional mitigation measures detailed in Section 4.2.5 would require operators to install control devices that would decrease emissions below the levels set by Wyoming Department of Environmental Quality (WDEQ) regulations. For example, adding non-selective catalytic reduction devices would decrease NO_x levels to 70% of the allowable emissions by regulation. EOG strongly protests the requirement for emissions controls for engines that are operating within the regulatory limits of the State of Wyoming. The State of Wyoming has primacy over administration of the Clean Air Act within its boundaries. 5
- The analysis in the DFNGF DEIS was purported to not represent a formal PSD increment consumption analysis, stating that it is the responsibility of the Wyoming DEQ to conduct such an analysis if and when such an analysis becomes necessary. Therefore, without evidence developed by the state as a result of such an analysis, it is not reasonable for the BLM to require a NO_x emissions offset program for development of this Project 6

at this time. Further, such a requirement exceeds the authority of the BLM.

- EOG supports the development of an air monitoring program within the state of Wyoming by the BLM in cooperation with the state, EPA, Southwest Wyoming Technical Air Forum, and other appropriate agencies/organizations. The accumulation of accurate data would decrease the BLM's reliance upon limited air quality data with which it must construct sophisticated models that may determine whether future projects, such as this project, are feasible. 7

Soils:

The following comments are directed to the analysis of impacts to soils.

- The final surface disturbance numbers should be utilized throughout the EIS analysis in place of the initial surface disturbance numbers for analysis throughout the document. Reclamation efforts currently practiced by industry as part of interim reclamation would fully restore disturbed areas to their original state within a short period of time. 8
- EOG supports the conclusion that there would be little to no impacts to soils after the implementation of Project Area mitigation measures. As stated in the DFNGF DEIS on Page 4-35, most of the predicted eroded soil would be contained on-site and would not be transported off-site. 9

Raptors:

The following comments are directed to the analysis of impacts to raptors.

- The DFNGF DEIS suggests closing roads located near active raptor nests. EOG supports this measure as long as operators are able to access their wells. Denying access to producing wells would prevent an operator's ability to perform routine maintenance and ensure that well site equipment is functioning properly. Road closure could result in unsafe conditions. EOG suggests that if a raptor establishes a nest that may possibly be impacted by vehicular traffic, use of the road should be prohibited to general public use but not to operators. Operator vehicle trips to producing wells would be minimized. 10
- The commitment to provide driver education to operator personnel is included in the DFNGF DEIS under Project-wide Mitigation Measures in Section 2.5.2.11. 11
- The proposed mitigation to disallow the construction of permanent aboveground structures within 300 meters or less....of any raptor nest (page 4-72)" unnecessarily prevents development near inactive or abandoned nests. 12

- Mitigation measures proposed in addition to the ones listed in Section 2.5.2.11 must be based on documented scientific evidence that is current and appropriate to the area being analyzed. The DFNGF DEIS should include citations to these studies within the document to support the need for additional restrictions. More detail is needed to support the validity of these proposed additional mitigations. 13

Wildlife:

The following comments are directed to the analysis of impacts to wildlife.

- DFNGF DEIS suggests that "when 4-5 wildlife resource concerns are present within a section (22 sections), the BLM may consider a reduction in the number of well locations (<4) allowed within that section if well placement does not adequately avoid the resources (page 4-72)." Other mitigation measures suggest that wells be limited in areas of crucial winter range and that some roads be closed if they are located in big game critical range. As the BLM is well aware, EOG and other operators are currently subject to extensive wildlife restrictions that regulate timing and placement of well locations. Developing a well requires a great deal of planning and expense, but in most cases, EOG has been able to successfully drill wells that avoid adversely impacting wildlife. Limiting the number of well locations in areas of high wildlife density is effectively a mandate to directionally drill from a fewer number of available locations. 14 For reasons adequately described in the DFNGF DEIS in Section 2.6.2, the use of alternative drilling technologies should not be presumed to be feasible on anything but a well-specific basis. The use of directional drilling or any other non-conventional type of drilling or production technique cannot be presumed to be able to access minerals in those areas where operations are excluded or restricted. In addition, the use of these techniques would incur extra costs to the operator. Economic considerations may preclude their use. An operator's inability to extract minerals from its leases is a denial of the rights associated with lease acquisition and could be construed as a taking. BLM Instruction Memorandum 92-67 clarifies 43 CFR 3101.1-2, which provides for a 200 meter general standard within which surface-use restrictions must fall. For any surface-use restriction that exceeds the 200-meter/60-day rule, the BLM bears the burden of establishing that the restriction is justified. 14a
- "Avoiding" (Page 4-72) areas where four wildlife resources of concern overlap to reduce impacts is an unclear statement. Total avoidance may preclude mineral extraction, as described in the preceding bullet. 15
- Mitigation measures proposed in addition to the ones listed in Section 2.5.2.11 must be based on documented scientific evidence that is current and appropriate to the Project Area. The DFNGF DEIS should include citations to these studies within the document to support the need for 16

LETTER 123 cont'd

additional restrictions. More detail is needed to support the validity of these proposed additional mitigations.

The ability to extract natural gas from the leased public lands in the Project Area helps to maintain a stable economic platform for the counties directly affected by the finalized EIS, makes an important contribution to the economic health of the State of Wyoming, and helps to satisfy the energy needs of our nation. The hydrocarbon resources that exist beneath public lands are, in fact, owned by the public. Oil and gas operators in the management area provide the means to access and develop these oil and gas reserves, providing much needed energy to meet public demand.

Sincerely,

Sheila Bremer

Sheila Bremer
Regulatory Coordinator

xc: Curt Parsons
Bob Davis

LETTER 124

AIR QUALITY COMMENTS
DESOLATION FLATS NATURAL GAS FIELD
DRAFT ENVIRONMENTAL IMPACT STATEMENT

General Comments:

1. Pg. 4-29, Section 4.2.5 Additional Mitigation Measures - A listing of potential mitigation measures is an essential part of the DEIS. However, the reasonable mitigation measures should include a measure of the improvements in environmental impacts along with the costs of mitigation. The benefits and costs of implementing mitigation are essential for the decision-making process. Without this information, the decision-maker is lacking information with which to make an informed decision. 1

2. Page 5-6, Section 5.3.2.1 Cumulative Emissions Inventory - Development in SW Wyoming is expanding with numerous oil and gas developments. Since May 2001, the South Piney project in Sublette County is proposing 210 wells, the Jonah Field Infill Drilling Project in Sublette County is proposing an additional 1,250 wells, and Seminoe Road CBM Project is proposing 1,240 wells. The Desolation Flats Technical Support Document for Air Quality Analysis was published in May 2001, and therefore, the cumulative emissions inventory is lacking some newly proposed developments. EPA recommends updating visibility and lake acidification impacts with results for Class I areas with results obtained from the Jonah Field Infill DEIS. 2

3. Page 5-11, Section 5.3.2.3 - Cumulative Visibility Impacts - The cumulative visibility impact analysis indicates that there potentially would be a total of 25 days with greater than 0.5 Δ dv and 7 days with greater than 1.0 Δ dv. EPA encourages BLM to work with the State of Wyoming in the development of a plan to reduce these potential impacts to regional haze. The development of energy resources in Southwest Wyoming are essential for economic health of the region as well as the economic health of the Nation. As discussed in this section of the DEIS, the impacts due to the development of Desolation Flats are minimal when compared to the potential cumulative impacts. As the manager of the public lands in Southwest Wyoming, BLM can play an important role in the development of mitigation steps to reduce these potentially significant air quality impacts. 3

Specific Comments:

1. Page 4-8, first paragraph. "The analysis of Alternative A represents the worst-case scenario". EPA would like to see a "most likely scenario" for air quality impacts 4

versus a "worst-case scenario". When a worst-case scenario combined with cumulative impacts shows significant environmental impacts such as visibility impacts in Class I areas, then the decision-maker would be uncertain as to whether or not mitigation of impacts is necessary. Only performing a worst-case scenario, increases the uncertainty of whether or not an impact will actually occur. 4

2. Page 4-11, Section 4.2.3.1.1. "The watering control efficiency was assumed to be 50%." Please state the rate of water application necessary to achieve a 50% control efficiency. A 50% control efficiency is not considered a "worst-case analysis of impacts". 5

3. Page 4-14, Table 4-4. Please state the distance from a single well that these impacts are predicted to occur? 5

4. Page 4-18, second paragraph. Please site the EPA literature that says a more realistic exposure scenario is "64% of an individual's time spent outdoors at full concentration, and 36% of the time spent indoors at one-quarter of the full concentration, for a period of nine years ...". 7

5. Page4-20, Table 4-9. Please state the averaging times for the "Range of State Acceptable Concentration Limits". 8

6. Page 4-20, Table 4-10. According to risk assessment guidelines, incidental carcinogenic risk numbers should be rounded to the next whole number. For example, a "1.6 in one million" risk would be 2 in one million risk. Recommend revising risk numbers in Table 4-10 to whole numbers. 9

7. Page 4-24, second paragraph. Please provide justification for the statement " Regional background values were used for the comparison even through it is expected that the actual background concentrations in Dinosaur National Monument are less that the regional values assumed." With campgrounds and automobile traffic in Dinosaur National Monument, the background concentrations may be higher than the regional background values. 10

LETTER 125

Duplicate of Letter 146. Refer to page 97 for comments.ments.)

United States Department of Agriculture **Forest Service** **Bridger-Teton National Forest**

340 North Cache
P.O. Box 1888
Jackson, WY 83001-1888

File Code: 2580

Date: June 27, 2003

Mr. John Spehar, Project Coordinator
BLM-Rawlins Field Office
P.O. Box 2407
Rawlins, WY 82310-2407

Dear Mr. Spehar,

This is in response to the BLM's Draft Environmental Impact Statement (DEIS) on the proposed "Desolation Flats Natural Gas Field Development Project." The comments addressed in this letter are related primarily to Air Quality. The Forest Service is very concerned about the effects this project may have on air quality in Southwest Wyoming, particularly in Wilderness areas and National Parks that have been designated as Class I by the Clean Air Act, but also including all wilderness areas managed by the Forest Service.

Recently, there has been a flurry of proposed, large-scale natural gas projects in Southwest Wyoming, including the Jonah II, Continental Divide/Wamsutter II. South Baggs, the Pinedale Anticline Projects and others. Air quality analysis conducted as part of the NEPA process for these projects indicate there is a small cumulative impact from these projects on visibility in nearby Federally Mandated Class I Wilderness areas. Section 169A of the Clean Air Act states "Congress hereby declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Federal Class I areas which impairment results from manmade air pollution." Adverse impact on visibility means visibility impairment that interferes with the management, protection, preservation or enjoyment of the visitor's visual experience of the Federal Class I area. In accordance with this national goal, the Regional Haze Rule was promulgated in 1999. This rule compels state and federal agencies to improve visibility in the 156 mandatory Federal Cass I national parks and wildness areas. The rule requires the states, in coordination with the Environmental Protection Agency, the National Park Service, U.S. Fish and Wildlife Service, and the U.S. Forest Service, to develop and implement air quality State Implementation Plans to reduce the air emissions that cause visibility impairment.

In the review of the DEIS for the Desolation Flats Project, the Forest Service has noted some items which need to be addressed in the Final EIS, before an informed decision on the project can be made which will insure the protection of air quality values in Class 1 and other sensitive wilderness areas. In this letter we will highlight the major deficiencies and describe the problems observed in the review of the DEIS document. Detailed line by line comments are provided in the attached document (Comments on DEIS.doc).

1. Adequacy of the data analyzed

It appears as though the data for this analysis was collected in 2000 or early 2001, and the analysis was done based on that information. Much of the data used was actually older, (i.e., 1987-1995 for visibility) and was not updated with more recent information. It also appears that no effort was made to update either the data or the Reasonable Forseeable Development (RFD) Scenario used in the initial analysis before the final release of the DEIS in April of 2003. Because of this, data used in the analysis is not the most current, and does not reflect current conditions on the ground. In the time from 2001 to now, there have been multiple Natural Gas and Coalbed Methane projects proposed and or analyzed which would have a direct effect on the cumulative impact analysis of this project. A partial listing of these projects includes: Powder River Basin CBM, Atlantic Rim, Modified Jonah II, Seminoe Road, Wind River, South Piney, Jonah Infill, Vermillion Basin, Copper Ridge and Jack Morrow Hills. All of these projects have a potential to contribute to cumulative air quality impacts in the Class I and sensitive Class II areas you described in your analysis.

For example: Modeling conducted for the Powder River Basin Coalbed Methane Project in Northeastern Wyoming has indicated possible impacts on Class 1 areas in Western Wyoming. The most recent modeling completed for the Powder River Basin project showed that PM_{10} increments in the Washakie wilderness may be exceeded, and visibility may be impaired 5 days at the Washakie wilderness, 4 days each at the Bridger, Fitzpatrick and North Absaroka wilderness areas and 3 days in the Teton wilderness. This analysis also showed that the acid deposition

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from the Powder River Basin Project alone would impact Upper Frozen Lake in the Bridger wilderness by increasing acidity by 0.5 ueq/l over baseline conditions, and that cumulative predicted impacts would be 180% of the acceptable change for Upper Frozen Lake. None of this information was presented in your Draft Document for the benefit of the public or the decision makers. However, it is logical to assume that development of 385 additional gas wells (250 producing wells) in the Desolation Flats area compounded with additional compression needed to move the natural gas through supply lines will potentially add to these negative effects on nearby Class I areas.

The Forest Service feels the data used in the analysis was not current or adequate. We request that more analysis be done using current air quality data, current emission inventories, an updated RFD scenario including recently proposed projects and the incorporation of large scale impacts modeled by the Powder River Basin CBM project.

2. Significance of Air Visibility Impacts;

In the discussion of visibility impacts, the BLM discloses that there are 25 days that exceed the 0.5 dv threshold as a result of the cumulative analysis and that there were seven days that would exceed the 1.0 dv threshold in the sensitive Class I and Class II areas studied. It is also stated the "On only two of the 25 days would the absence of the Desolation Flats change the visibility to levels below the thresholds, and these are fur days slightly over 0.5 [delta] dv." This analysis did not include the projected emissions of RFD projects (as mentioned above in 1.), or any of those recent projects which have modeled emissions impacts.

The Forest Service has reviewed the days of modeled cumulative impacts that are greater than 0.5 dv change and have determined that the cumulative impacts from the Desolation Flats Project, combined with other recently proposed projects in SW Wyoming that were not addressed in this analysis are significant in increasing visibility impairment in the Bridger, Fitzpatrick and Popo Agie wilderness areas. It is also expected that if the portions of the Washakie and Teton Wilderness areas which are included in the modeling domain were considered sensitive receptors in modeling with the added emissions from the recently proposed projects listed above, that they too would show additional impacts.

For the Final EIS, the Forest Service requests additional modeling be done to include the Washakie and Teton wilderness areas, to evaluate if the updated cumulative effects analysis including recently proposed projects would have an impact on these sensitive areas.

3. Mitigation

In the DEIS, the BLM does discuss in general some air quality mitigation. However, in light of the modeled cumulative impacts from this project (even without consideration of impacts from the recently proposed projects discussed in items 1 and 2), the BLM needs to provide a better discussion of a wide scale of mitigation options and the related costs. The Forest Service believes that updated cumulative air quality analysis as requested in items 1 and 2 above, will highlight the need for some type of large scale mitigation to occur before this project can be authorized to move into the development stage.

Types of mitigation which could be considered include (but are not limited by):
- Large scale off-site mitigation (emission tradeoff such as completed by Naughton and Ultra Petroleum). This could be in SW WY or possibly in SLC if the decrease in emissions would benefit the Class I areas.
- Requirement of 50% dust abatement and low NOx compressors.
- Longer phased development (maybe over 100 years).
- Better coordination of activities with other emitters in the area.
- Use of wind generated power to offset emissions from compressors.
- Embracing new technology as soon it becomes available, with a goal of X% reduction in projected emissions in 10 years based on technology. (Note: we are talking about a 30 to 50 year LOP, so a lot can happen.)

The Forest Service requests the BLM to conduct an extensive analysis of potential mitigations (to determine costs, practicality and effectiveness) for the Final EIS which may reduce overall emissions affecting sensitive areas, including Class I areas while allowing future gas development to occur. The need for this analysis goes beyond this project, and will become necessary as new projects are proposed, analyzed and developed.

The Forest Service appreciates the opportunity to provide comments to the BLM on the DEIS document for the Desolation Flats Natural Gas Field Development Project. We would like to remain involved in this project to insure that air quality issues related to Class I and Class II wilderness areas are adequately assessed and addressed in the final environmental analysis of this project. Please contact Terry Svalberg, Air Quality Specialist on the Pinedale Ranger District if you have any questions or have any questions relating to the comments. Terry can be reached at:
Phone: 307-367-4326 or Fax: 307-739-5750.

Sincerely,

Carole "Kniffy" Hamilton
Forest Supervisor

I Concur: T. Svalberg

Electronic Copies:
Dan Olson, WY DEQ
Robert Edgar, EPA
Darla Potter, WY DEQ
Jeff Sorkin, USFS
Levi Broyles, USFS
Rebecca Aus, USFS

LETTER 126

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
John Spehar, Project Coordinator
P.O. Box 2407
Rawlins WY 82301

Re: Desolation Flats Project Area

Dear Mr. Spehar,

Please adopt a Conservtion Alternative in the FEIS for this area and also mandate the least environmentally damaging types of drilling.

Please consider the cumulative effects of development on the many species of wildlife and also on the spectacular landscapes. 1

Thank you,

F. Earline Hittel

F. Earline Hittel
36 Begonia
Casper WY 82604-3854

LETTER 127

TRUE OIL LLC

895 WEST RIVER CROSS ROAD

P.O. DRAWER 2360
CASPER, WY 82602
(307) 237-9301
FAX (307) 266-0252

June 27, 2003

JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

John Spehar, Project Manager
Rawlins Field Office
Bureau of Land Management
P. O. Box 2407
Rawlins, WY 82301

RE: Desolation Flats Natural Gas Field Development Project DEIS

Dear Mr. Spehar,

Thank you for the opportunity to comment on the draft EIS for the Desolation Flats Natural Gas Project. As a lease holder in the project area the requirements, operator agreed mitigation and the other possible stipulations are of great importance to True Oil LLC. As a relatively minor lease holder we did not participate in the operators groups that worked with BLM on the proposed action or operator agreed mitigation measures. We urge the BLM to make a few clarifying changes to the document and approve the final EIS allowing oil and gas development to go forward in the analysis area.

Recreation and Visual Resources: The potential impacts to recreation and visual resources from the proposed activity are considered in the document to be significant. Yet, in the document no quantitative information is provided relative to the level of documented recreational activity that takes place in the study area. We recognize the importance of the area to big game hunters but fail to see the significance criteria relative to a reduced sense of isolation or visual change. The mere fact that visitors to the Haystacks or Adobe Town might be able to look out of the WSA and see a gas field does not make the gas field a significant impact to the users of the WSA. 1

The level of recreational use of the area is variously described in the document as "low" and a few paragraphs later as "moderate". Which is it and what are the relative differences between the two. Perhaps interpretive signs could alleviate some of the lack of appreciation for the proposed activity. These signs could remind those traveling relatively long distances to hunt or picnic in the area that without the development and production of the oil and gas resource they would not be able to visit without a very long walk. 1a

General Wildlife: We are impressed at the significant amount of field work that was conducted to create the wildlife section and the level of analysis that went into the document. The overlapping wildlife resources table in Appendix G greatly assists operators in determining what issues will be facing them as projects go forward. 2

We are concerned at the potential cost of implementing the wildlife monitoring plan (Appendix H). While a relatively low level of development will require a "reasonable" level of monitoring, the intensity of monitoring relative to development at 4 wells per section seems excessive. No information is provided regarding how these costs might be allocated among the various agencies and operators with interest in the area. 2

If all the provisions of Appendix H are implemented BLM will be overwhelmed with data. We suggest that BLM adopt, as part of its plan, the identification of key indicators by which system changes can be monitored. For each key indicator, the Review Team should identify triggers at which time, if exceeded, additional investigations would occur. 2a

The information gathered through out the life of the project will provide much needed data regarding the affects of oil and gas development and production on wildlife. We urge BLM to maintain consistency with existing data collection protocols and survey guidelines so that at the end of the day the data are comparable. 2b

Mountain Plover: We are taken aback at the level and complexity of protection afforded the Mountain Plover. We recognize the species has been petitioned for listing and that the BLM has a mandate not to contribute to the further decline of the bird but the number and complexity of mitigation measures afforded the species is overwhelming. As written it appears that annual surveys will be required to determine if potential habitat has become occupied habitat and if it is additional constraints will be placed on that years development activities. 3

Sage-Grouse: The document allows BLM to add a stipulation that suitable nesting habitat within a two mile radius of an active sage-grouse lek be avoided. This stipulation looks like a mapping requirement leading to a two mile NSO. If this level of information is collected and areas within the two mile radius are found not to contain suitable nesting habitat will they be dropped from the spring/summer protection standard or is this another stipulation that will not be amended. 4

Wild Horses: We recognize the complexity of the regulatory process regarding managing wild horses. The herd is over objective. The range/vegetative resource has many management pressures from many directions including, but certainly not limited to, grazing by big game species, livestock and wild horses. Oil and gas activities further constrain the vegetative resource, slowly replacing it over time. The BLM is mandated with multiple use management of the public lands. We urge the BLM to reduce the number of horses to the population objective and allow the other legitimate uses of the resource to be permitted. 5

Sincerely,

Renee C Taylor

Renee C. Taylor
Environmental Coordinator

desolation flats DEIS.comments.062703

LETTER 128

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

John Spehar, Project Coordinator
Bureau of Land Management
Rawlins Field Office
P.O. Box 2407
Rawlins, Wyoming 82301

Dear Mr. Spehar
Re: Desolation Flats Project Area

Once upon a time, as I flew over Wyoming on the way to what I thought of as "nicer" places to see, I would have agreed with the desolation depiction for the Red Desert area and other unpopulated, seemingly unproductive, wasted spaces. And even when I first moved here from New York City, I would drive along I-80 on the way to "nicer" places to explore and visit; then I got off the interstate.

I no longer have the Easterner's perception of such areas; they are not wasted and unproductive. They cannot be sacrificed because they serve no obvious purpose or are not sexy places to visit to see and be seen.

I recently spent three days traveling and camping in the southern part of the Red Desert. I understand now why pronghorns are the fastest mammal in North America; they seem to be catapulted across the desert. The majesty of the dozens of wild horse herds – how the stallion stands and defends, defies you to come close will never be forgotten. Through volunteering for the Game and Fish at Sybille Research Center I have embraced its management mission of protecting existing herds rather than producing herds which cannot be sustained because of disease and environmental issues. Winter range for elk and deer where the herds can be self-sustaining beats a feed ground where they are subject to Brucellosis. Hearing birds sing all through the night because they need to maintain claim to a few precious juniper trees and seeing a grove of junipers 400-500 years old are also reasons to leave much of the Red Desert as pristine as possible.

For the above reasons and more, I am lobbying for a conservation-minded alternative in the EIS. 1 My group looked and looked and couldn't find mountain plovers, hence they need to be protected and allowed to produce. 1a Prairie dog colonies are essential to Black-footed Ferrets; why are we breeding them in captivity as a G&F program if we do development which will destroy the habitats of their prey? 1b

I have already addressed my concerns about the winter range for the deer, elk and pronghorn. When we were near a drilling operation, we saw that the earther dam used to hold back the waste water was leaching into the creek – horrible enough – but when we walked toward the dam we saw that a pronghorn had been ensnared by the barbed wire needed to protect cattle from the polluted 1c

Page 2

1 water. It was a blessing that we were in the right place at the right time to extricate that pronghorn but we couldn't help but be saddened by the idea of how many were lost each day because it was necessary to install barbed wire to begin with. 1d I ask that the idea of "No Surface Occupancy" be part of the procedure for extracting oil and gas. If it need be done at all, let it be as minimally intrusive as possible. Do not disrupt the natural environments and habitats of native species. 1e Mandate directional drilling so drilling works around, not through, sensitive areas.

1f We visited the Adobe Town Wilderness Study area; the idea that this phenomenally beautiful and rugged area would be impacted sickens. The badlands and geological formations rival all of what I have seen in this state and deserve as much protection as Brice, Grand Canyon and other national treasures. Leaving the Adobe Town Wilderness Study areas surrounded by 50,000 acres of unprotected wilderness-quality lands is like having Central Park in the middle of Manhattan; everything runs amuck around this haven and limits your enjoyment and enticement to visit it. Don't laugh off this analogy; think seriously about it.

I am opposed to the ideas of development but I can make a concession if the environment and its species are protected in a way that incorporates a conservation-minded approach and the public's wishes and opinions are considered. 1g Please be forthcoming about the plans for where the wells and the roads will be so that we who care can continue to have input.

Thank you for your time and the opportunity to address these issues.

Sincerely,

RoseMarie Aridas

RoseMarie Aridas
810 ½ Kearney
Laramie, Wyoming 82070
(307) 755-1539

LETTER 129

2443 Overland Road
Laramie WY 82070

June 30, 2003

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT

Mr. John Spehar, Project Coordinator
Desolation Flats Project Area
Rawlins Field Office
Bureau of Land Management
P.O. Box 2407
Rawlins WY 82301

Ref.: Environmental protection for Desolation
Flats Project Area

Dear Mr. Spehar:

Certain areas of these United States simply *must* be protected for values beyond the short-term gains from commercial extraction of hydrocarbons. One of those area is the Adobe Town of the Washakie Basin in south-central Wyoming — and its buffering, immediate surroundings. The Adobe Town proper constitutes an area combining existing wilderness qualities, spectacular desert scenery, critical winter habitat for large ungulates, and essential summer habitat for many small vertebrates. Much of the area adjacent to the Adobe Town shares those same qualities, and U.S. citizens have proposed expansions of the Adobe Town Wilderness Study Area (WSA). Your "Desolation Flats Project Area," generally to the east, overlaps parts of those proposed expansions. In agreement with the posture taken by the Wyoming Outdoor Council, we request that all BLM-administered lands within the citizens' proposal be incorporated within the existing WSA. 1

BLM's "preferred plan" for gas development in the Desolation Flats Project Area does not document where the new roads are to be cut, nor does it provide information about the siting of the large number of planned wells. In anybody's book, that does not provide adequate information upon which environmental and scenic impacts of extensive development can be evaluated. BLM has allowed genuine environmental devastation — and almost total destruction of scenic values — in Wyoming's Powder River Basin through similar extractive activities, and you must not let that happen again anywhere within Wyoming — ever. For the Desolation Flats Project Area, your Final Environmental Impact Statement should contain a viable and strong conservation alternative. In the probable absence of a no-action alternative, at the very least you must provide reliable means by which directional drilling and similar means are applied to minimize the negative impacts of road building and commercial drilling. 2

Most importantly of all, however, BLM should express genuine breadth of environmental responsibility to future generations of Americans by prohibiting drilling in lands having wilderness quality, and in existing roadless areas, and within any lands containing habitats critical to wildlife.

The greater vicinity of Wyoming's Adobe Town is a fragile environment that forms a rich biological, geological, and historical resource for our nation in its present, undeveloped form. We will be considered as heroes by future generations if we protect the area *now* from unnecessary commercial extractive development — alternatively, our descendants will view us as a greedy and short-sighted generation if we do not provide a strong ethic of preservation for this area's natural environmental resources.

Sincerely yours,

Jason A. Lillegraven Linda E. Lillegraven

Jason A. Lillegraven Linda E. Lillegraven

LETTER 130

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Kenny Becker
P.O. Box 1335
Pinedale, WY 82941

John Spehas; Project Coordinator
P.O. Box 2407
Rawlins,Wy. 82301

Dear Mr Spehas;

While resident of Sublette County for last thirty-three years, I utilized BLM grazing allotments for the cattle I was in charge of. I always maintained a good relationship with the BLM representatives, mostly because I treated that land as if it were my own, with the thought of using that land the following year.

What I am witnessing today in Sublette County is the end of Multiple Use on the people's land. The Oil and Gas industry is demonstrating what rapid industrialization is capable of. What has taken a million years of natural development to produce this? ecosystem, that most citizens of this county have benefited from and reduced it to the life you get on an oil pad access road. We had just as well pray to God that deer and antelope can figure out a new way to winter on the Mesa and Desert where the Anti-Cline and Jonah field have become reality. 1

Recently, a friend invited me to go camping in the Adobe Town Wilderness Study Area. I found this area to be an even more spectacular an area than other areas I am familiar with in the Red Desert. What I am most afraid of is that these special areas like the Honeycomb Buttes and Adobe Town will be roaded, pipelined, and so called developed for oil and gas retrieval, in other words sacrificed for the corporate benefit.

As a father of a twelve year old daughter I am afraid that these special areas and crucial wildlife habitats will be destroyed or compromised so that these children will not be able to witness these beautiful areas full of the most incredible natural diversity as yet common in the Red Desert.

LETTER 131

"Becky Miller"
<brmiller@ida.net>
07/01/03 10:25 PM

To: "John Sephar" <DESFlats_WYMail@blm.gov>
cc:
Subject: Desolation Flats Project Area

Dear Mr. Sephar,

Please consider these thoughts in making decisions regarding the Desolation Flats Project Area: Please adopt a conservation alternative in your Enlvironmental Impact Statement that will:

1. Prohibit drilling in sensitive areas and prohibit the drilling in floodplains, roadless areas, wilderness quaility lands, and crucial wildlife habitat.
2. Provide a sufficient analysis of the impacts of the proposed projects. Due to pressure from large corporations and the current administrations policy's of rushing through this process, the BLM should not bow to this pressure, trusting that citizens want to protect what little wild areas are left. As you know development is encroaching on all wildlife habitat, please leave this area open, where wildlife, and vegetation can flourish.You know this development will diminish the quality of the habitat. 1
3. If drilling is to occur despite efforts like mine to stop it, please recommend the least damaging types of drilling, such as directional drilling to reduce the impact on critical wildlife habitat.

As you are well aware, elk and deer are loosing winter range and calving habitat at a rapid rate due to human encroachment whether it is housing development, recreation or natural resource development and harvesting. Please support the effort to force the development of alternative energies such as hydrogen, solar and wind power by refusing to allow drilling in this remote, fragile environment.

Thank You for considering these issues. Please listen to the voice of the people, deny drilling, the building of hundreds of miles of roads, powerlines and pipelines in this 230,000 acre section of the Red Desert.

Respectfully,
Becky Miller
P.O. Box 224
Inkom, Idaho 83245

LETTER 132

"Deena McMullen"
<dmcmullen@ipams.org>
07/01/03 04:26 PM
Please respond to
dmcmullen

To: <DesFlats_WYMail@blm.gov>
cc:
Subject: Desolation Flats Draft Environmental Impact Statement Comments

Below as well as attached are IPAMS comments.

Dear Mr. Spehar:

These comments are submitted on behalf of the Independent Petroleum Association of Mountain States (IPAMS). IPAMS is the regional trade association in the Inter-Mountain West representing the interests of over 350 independent natural gas and oil producers, royalty owners, industry consultants, and service and supply companies operating in thirteen states, including Wyoming. Independent producers drill 85 percent of the wells in the United States, produce 65 percent of the country's natural gas, and 40 percent of the oil. IPAMS appreciates the opportunity to submit the following comments on the Desolation Flats DEIS.

President's Executive Order 13212

The BLM must follow the President's Executive Order 13212 (2001) in
completion of the Desolation Flats EIS. In the Executive Order, the
President directs federal agencies to evaluate current programs, policies 1
and rules and to reduce barriers to America's energy self-sufficiency. The
EIS should reflect federal law and policy and the nation's need for secure
sources of domestic energy. The EIS should acknowledge that industry can
develop the resources in an environmentally friendly manner while providing 1a
the nation with an abundant source of clean affordable energy. Furthermore,
the BLM has a Congressionally mandated multiple-use mission, which must be
honored and not compromised by the single-use land management objectives 1b
promoted by certain interest groups.

Companies exploring for natural gas and oil are important partners in efforts to conserve wildlife and habitat, and to preserve cultural and historic resources. Natural gas and oil companies often fund the research and monitoring efforts that assist land managers with managing the many resources found on public land.

Interim Development

During preparation of the Desolation Flats EIS, drilling activities should
be allowed to proceed in accordance with regulations of the Council on
Environmental Quality, particularly where the well(s) will not cause any 2
adverse impact to the environment or will not limit the choice of reasonable
alternatives.

Multiple-Use

A decision to remove further lands from the constantly diminishing
multiple-use land base would have a detrimental impact on local economic
opportunities and welfare. Consequently, IPAMS would strongly object to a
no-lease or no-surface-occupancy stipulation decision for areas allocated to 3
semi-primitive recreation. Lease stipulations should only be applied to
protect a specific resource or value not sufficiently protected by standard
lease terms.

Directional Drilling

BLM must not make assumptions that industry can directionally drill in any 4
situation. Increased cost coupled with increased mechanical challenges may prevent directional projects from ever being drilled and thus related revenues not realized by the state of Wyoming and the country.

Wildlife

When developing management practices and wildlife stipulations, the BLM
should use sound science to determine wildlife patterns and whether
restrictions are necessary. Too often, areas are closed or severely 5
restricted based on faulty evidence. If no sound science exists that
demonstrates the presence of a species in an area, the BLM should examine
the area before making decisions that will govern land management for the
next 10 - 20 years.

Water and Air

BLM should not impose regulations that exceed acceptable standards for the 6
State of Wyoming.

Cooperating Agencies

IPAMS encourages the BLM to communicate early and often with cooperating
agencies to prevent unforeseen delays at the eleventh hour. Cooperating with
federal, state and local agencies in the early stages of preparation of the 7
document will help the BLM produce a document that is thorough in its
analysis.

Conclusion

Environmentally responsible development of natural gas and oil resources in the Desolation Flats Area will provide significant benefits to local communities, the state, and the nation. To successfully develop the resources in the area, all parties must work together to establish reasonable multiple use alternatives that will provide environmentally sound development of natural resources and minimize any impacts on wildlife, plants, and recreational interests.

IPAMS urges the BLM to move expeditiously to complete this EIS, avoiding all 8
unnecessary delays, so that the nation, state, and county can continue to
reap the benefits of multiple-use provided in this area.

IPAMS looks forward to continuing to cooperate with the BLM and work with all stakeholders to develop energy for the nation while protecting the environment. If you have any questions, please contact Deena McMullen, IPAMS at 303-623-0987. Thanks again for the opportunity to comment on this document.

Sincerely,

Deena McMullen
Manager of Government and Public Affairs

Deena McMullen
Manager of Government & Public Affairs
MT, WY, ND, SD
Independent Petroleum Association of
Mountain States

518 17th Street, Suite 620
Denver, CO 80202
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http://www.ipams.org

LETTER 133

June 30, 2003

Mr. John Spehar – Team Leader
Bureau of Land Management
PO Box 2407
Rawlins, WY 82301

RE: Comments to the Desolation Flats Natural Gas Fields
Development Project Draft Environmental Impact Statement

Dear Mr. Spehar:

Devon Energy Production Company, L.P. would like to thank the BLM for the opportunity to comment on the above referenced document. Devon has been actively engaged in the development and production of gas resources on federal lands located in the Great Divide Resource Management Plan for a number of years. We believe the Desolation Flats EIS will directly affect Devon's operations in the Washakie Basin and support the BLM's intention to update the plan so that future oil & gas development is not delayed.

Devon Energy supports the BLM's proposed alternative as outlined in the Draft Environmental Impact Statement, however Devon regards several items to be worthy of careful consideration as the process is refined. We offer the following specific comments in order of importance:

- **Wildlife Mitigation**
  Current BLM wildlife mitigation stipulations are in effect over several months of the year, creating a very limited window for Devon Energy to drill, complete, and/or recomplete wells. These stipulations reduce our ability to efficiently produce the resource, causing unnecessary capital tie-ups and inefficient use of the reserve potential. The Council on Environmental Quality regulations on NEPA, section 1502, direct that mitigation measures be identified in the EIS which may be utilized to reduce or avoid impacts to other resource values. It should be noted that under the Wildlife Section of the Draft EIS, the Authorized Officer may waive many of the mitigation measures as the circumstances warrant. 1 Devon feels it is necessary to discuss other types of mitigation, which could be utilized at the time of oil and gas drilling. Proper implementation of these mitigation procedures allows for oil and gas activities to be compatible with other resource uses. 1a

- **Directional drilling in land use decisions**
  The technology associated with directional drilling should not be considered a standard practice or stipulation for production in the preparation of the RMP. While some geologic formations may be considered to be good candidates, limitations are inherent in the technology. Generally, directional drilling is used for field development rather than exploration activities. Drilling of exploration wells is already a difficult and expensive undertaking because it is an attempt to determine where a structure may occur without the added knowledge of data from previously drilled wells in the area. The technical limitations of directional drilling do not make it a reliable tool for most exploration wells. Additionally, the costs associated with directional drilling are unpredictable, hampering the producers in their ability to accurately forecast the economics associated with developing leases. Only the operator can make determination of the feasibility of directional drilling or any other unconventional drilling technology. 2

- **Well Spacing**
  The BLM will face increased challenges regarding wildlife mitigation, including Threatened and Endangered species, migration corridors and wildlife transition areas. Adding to this challenge are the ongoing studies of The Mountain Plover and the White Tailed Prairie Dog in the Desolation Flats area. The Wyoming Oil and Gas Commissions current requirements for spacing of well pads should continue to be utilized by the BLM as an effective and consistent approach to minimizing surface disturbance. 3

devon
ENERGY PRODUCTION COMPANY, L.P.
20 North Broadway, Suite 1500
Oklahoma City, Oklahoma 73102-8260
Telephone: (405) 235-3611
Facsimile: (405) 552-4667

- **Handling of existing lease rights under new plan**
  Valid existing lease rights cannot be changed by a new plan. Voluntary compliance to the new plan may be sought from lessees if activities are initiated. Nevertheless, BLM needs to specify in the planning documents if and how valid existing lease rights could be impacted by the new leasing decisions. Specifically, potential conditions of approval for operations and other changes should be identified. 4

- **Existing Wilderness Study areas (WSA)**
  The establishment of new Wilderness Study Areas should be curtailed during the preparation of the Environmental Impact Statement. This ensures that the decision-making process will remain consistent. Additionally, if the BLM allows new WSA's to be established or the expansion of existing WSA's to occur, current leases rights could be violated triggering costly litigation and delays in the timeline. 5

- **The requirement to prepare a Statement of Adverse Energy Impacts in the event opportunities to develop oil & gas are curtailed as a result of RMP revisions** 6
  Devon is hopeful that the BLM will approach the matter of these new requirements in a collaborative fashion. We believe the intent of the National Energy Policy is not one of a punitive nature, but rather an effort to apply standard private sector accountability and reason to evolving circumstances.
  A Statement of Adverse Energy Impact must be incorporated as standard operating procedure in the event that a decision or action directly or indirectly produces an adverse impact on energy development, supplies or distribution. Additionally, the Instructional Memorandum (2002-053) necessitates a careful consideration and justification of the decision under existing RMPs, establishing precedence during the preparation of new RMPs.

- **Post-plan monitoring program**
  Currently the BLM is required to conduct certain monitoring activities. Devon feels that there is the opportunity to integrate a broader approach to monitoring so that the BLM can determine when activities are approaching the management threshold set forth in the plan. 7 This will allow the BLM to avoid making knee jerk reactions to halt all activity pending completion of a new EIS. We recommend the BLM look into alternatives to expand and implement integrated monitoring of resources. 7a Additional funding for expanded monitoring should be addressed perhaps by using MMS royalties or other funding sources.

Devon Energy, as a member of the Petroleum Association of Wyoming (PAW), fully endorses PAW's comments that have been submitted under separate cover. If you have any questions or comments concerning these comments, please feel free to contact me at 307-265-3053.

Sincerely,

Todd Ennenga
Senior Government Relations Analyst
Western Division

LETTER 134

Christine Gielitenfels
9 Juniper Dr
Lander WY 82520
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 1
BUREAU OF LAND MANAGEMENT

Your air quality assessment has serious flaws. Please see comments submitted by WOC, BCA + others.

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests. 1
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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature:

LETTER 135

Cindy Petersen
620 3rd St.
Rock Springs, WY 82901
Please include full name and address

ROCK SPRINGS, WY 829
PM

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 1
BUREAU OF LAND MANAGEMENT

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Signature: Cindy Petersen

LETTER 136

Ms. Priscilla Morse
302 S 10th St
Laramie, WY 82070

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

82301+2407 22

Dear Mr. Spehar,

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1

Signature:

LETTER 137

Beth Buskirk
2710 Leslie Ct
Laramie WY 82072

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

82301+2407 22

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1

Signature: Beth Buskirk

LETTER 138

Gretchen Yost
P.O. Box 2247
Pinedale, WY 82941
Please include full name and address

ROCK SPRINGS, WY 82901
PM
2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

82301X2407 B022

Dear Mr. Spehar,

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Signature:

LETTER 139

Mr Byril J Sanders
8300 W 131st St
Palos Park IL 60464-2120
Please include full name and address

SUBURBAN, IL
PM

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

82301+2407 22

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Signature: Byril J Sanders

LETTER 140

Ms. Bonnie Swiatek
951 RogersCanyon Rd.
Laramie, WY 82072

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

82301+2407 22

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Signature: Bonnie S. Swiatek

LETTER 141

G. F. Williamson
1306 E Ivinson Avenue
Laramie, WY 82070

Support Northeast Animal Shelter

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

82301+2407 22

P.S. - Roadless should remain NO roads.

Dear Mr. Spehar,

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Signature: [illegible] Williamson, 1306 Ivinson, Laramie 82070

LETTER 142

Steven Sutter
700 South 2nd St
Laramie, WY 82070
Please include full name and address

CHEYENNE WY

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature:

LETTER 143

Scott L. Mullins
266 N. Cedar St
Laramie, WY 82070
Please include full name and address

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature:

LETTER 144

Angus M. Morrison Jr.
845 East 33rd St.
Casper, WY. 82601
Please include full name and address

RECEIVED
JUL 1 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

A2301X2407 B022

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Signature: Angus M Morrison Jr

LETTER 145

Duplicate of Letter 162

United States Department of the Interior
FISH AND WILDLIFE SERVICE

Ecological Services
4000 Airport Parkway
Cheyenne, Wyoming 82001

In Reply Refer To:
ES-61411/W.02/WY7152

July 1, 2003

Memorandum

To: John Spehar, Project Coordinator, Bureau of Land Management, Rawlins Field Office, Rawlins, Wyoming

From: Jodi L. Bush, Acting Field Supervisor, U.S. Fish and Wildlife Service, Wyoming Field Office, Cheyenne, Wyoming

Subject: Comments on the Desolation Flats Natural Gas Field Development Project, Draft Environmental Impact Statement

This responds to your requests for comments on the Desolation Flats Natural Gas Field Development Draft Environmental Impact Statement (DEIS) dated April, 2003, received in the Wyoming Fish and Wildlife Service Field Office on April 25. The DEIS analyzes the effects of developing the Desolation Flats area in Sweetwater and Carbon counties, Wyoming. The preferred alternative is to drill 385 natural gas wells, in addition to the existing 63 producing and shut-in wells, with a density of 2 to 4 wells per section. Drilling construction would occur over the next 20 years, and life of the project is estimated at 50 years. In addition to the well pads, approximately 542 miles of new or upgraded roads, and 361 miles of new pipelines would be constructed.

GENERAL COMMENTS

In the discussions of project-related disturbances, the DEIS consistently refers to the percent of the entire project area affected. This is particularly true of discussions regarding wildlife habitat. But, for most wildlife species, the effects of development extend beyond the actual percent of area affected due to indirect effects. Although large areas of suitable habitat may be undisturbed by project development, these areas may be unusable due to indirect effects such as road avoidance, habitat fragmentation, and avoidance of human activity. The U.S. Fish and Wildlife Service (Service) recommends that the Bureau of Land Management (Bureau) include a discussion on indirect as well as direct impacts, as a discussion of only direct impacts can be misleading to the readers of the DEIS about the actual impacts of project development on wildlife and wildlife habitat. 1

Threatened and Endangered Species

2 Section 7(a)(1) of the Endangered Species Act of 1973 (Act), as amended, (50 CFR 402) authorizes the Bureau to use their programs to further the conservation and recovery of threatened and endangered species. Although the DEIS addresses measures to minimize impacts of project development on listed species, we believe the Bureau should also seize the opportunity to incorporate measures for species conservation and recovery into the planning document for this project.

3 Appendix I of the DEIS is the Biological Assessment for this project. However, the U.S. Fish and Wildlife Service (Service) has not receive a request from the Bureau to initiate consultation, either formal or informal, under section 7 of the Act. Since there will be depletions to the Colorado River system, formal consultation for species affected will be necessary. We encourage the Bureau to initiate consultation on all listed and proposed species potentially affected by the project immediately so that delays in project implementation can be avoided.

SPECIFIC COMMENTS

4 Page 2-39, Chapter 2, Resource Specific Requirements; Wildlife: The Bureau requires a 200 meter buffer from all active mountain plover nests for all project-associated developments. However, since release of the DEIS for the Continental Divide/Greater Wamsutter II project, the Service, through consultation with Dr. Fritz Knopf, has determined that a 200 meter buffer may not be sufficient to protect these nests. Therefore, we recommend this buffer be increased to 0.25 mile (~ 400 meters).

5 Page 2-46, Table 2-4: Comparative Impact Summary: Impacts to an endangered species cannot be "mitigated" as stated in Table 2-4. Rather, impacts may be minimized through the implementation of protective or conservation measures.

6 Page 3-60, Section 3.7.6, Upland Game Birds, Greater Sage-grouse: Please be advised that the greater sage-grouse habitat management guidelines referred to in this section (Braun *et al.*, 1977) are outdated, and have been replaced by Connelly, *et al.*, 2000. Since the publication of the 1977 guidelines, extensive research has been conducted on greater sage-grouse habitat requirements and use, resulting in more information on the ecology and recommended management for this species. We strongly encourage incorporating these new guidelines into the development of greater sage-grouse mitigation and minimization measures for this project. 6a For example, Connelly, *et al.* (2000) report that the average distances between nests and leks range from 1 to 6 km (3/4 - 4 miles), and that nest placement is independent of the lek. Therefore, the standard 2-mile radius buffer around lek sites (referred to in this and all subsequent wildlife sections) may be insufficient to protect nesting hens.

7 Page 3-65, Section 3.8, Special Status Plant, Wildlife and Fish Species, Black-footed Ferret and Associated White-tailed Prairie Dog Colonies: Prairie dog mapping of the project area was completed in 2000. The completion of mapping prior to drafting of the DEIS is very useful in evaluating potential project impacts and we appreciate these pro-active efforts. However, the boundaries of prairie dog colonies frequently shift, and therefore mapping completed 3 to 4 years prior to project implementation may no longer be accurate. We request that the mapping completed in 2000 be used as a guideline only for project planning. Determination as to whether or not black-footed ferret surveys will be necessary should be based on site-specific data, collected within one year prior to the development of individual project components. 7

8 Page 3-71, Section 3.8.2, Sensitive Plant, Wildlife, and Fish Species, Birds: The DEIS identifies the yellow-billed cuckoo as a sensitive species, but does not acknowledge that the western populations of this species is a candidate species under the Act. While the candidate status does not confer any protection to the cuckoo under the Act, it does identify the cuckoo as a species for which listing is warranted, but precluded by higher priority actions at this time. We believe the Bureau should acknowledge the status of this species, and use your authority under Section 7(a)(1) Act to further the conservation and recovery of the cuckoo.

9 Page 3-71, Section 3.8.2, Sensitive Plant, Wildlife and Fish Species, Reptiles: No supporting information is provided regarding the conclusion that the midget -faded rattlesnake is unlikely to occur on the project area. The Bureau should provide the supporting information for this conclusion. If the midget-faded rattlesnake may occur on the project area, protective measures for this species should be implemented.

10 Page 4-59, Section 4.7.3.1.1, General Wildlife: The discussion regarding potential impacts to non-game songbirds is contradictory and confusing. The second sentence in the first paragraph of this section states that temporary disturbances during construction would favor horned larks, yet in the following discussion, the DEIS states that horned larks would be one of the primary non-game songbirds most affected by habitat loss. The discussion continues by stating that the impact to non-game songbirds as a result of project implementation is likely to be low, yet within the same sentence, the DEIS states there is no data to accurately quantify the impacts. The Bureau should clarify the actual impacts to horned larks, and other non-game songbirds as a result of project implementation. Also, if there is no data by which to determine project effects on non-game songbirds, that should simply be stated rather than attempting to provide an effects analysis that cannot be supported. This should also be considered for the discussion on non-game mammals, which suffers the same deficiencies (second paragraph of this section).

Sage sparrows and sage thrashers are also specifically identified as species that will be affected by habitat losses resulting from project implementation. The DEIS states that the project impact on these species will be low. However, in the previous section (4.7.3.1, page 4-59) the DEIS states that shrub reclamation would require 8-15 years, which constitutes a long-term project impact according to the definitions on page 4-1. Again, the Bureau should identify the supporting information for the conclusion drawn for these two species, especially since time necessary for habitat reclamation may be a limiting factor in species recovery.

The General Wildlife section addresses only the impacts to non-game songbirds and mammals as a result of direct habitat loss. There is no discussion regarding impacts resulting from indirect effects, such as bird and mammal avoidance of roads, noise disturbance during breeding seasons, and displacement from suitable habitats as a result of human presence. These indirect impacts should also be considered for an accurate evaluation of project-related disturbances on non-game wildlife.

Page 4-65, Section 4.7.3.1.4, Upland Game Birds: The DEIS concludes that there will not be "significant" impacts to the greater sage-grouse as a result of project implementation, provided all mitigation, seasonal restrictions, and reclamation measures are successful. The Service appreciates the Bureau's commitments to implement these items. However, the DEIS does not analyze indirect effects of project development on the greater sage-grouse, or the impacts previously observed on other energy development projects, such as habitat fragmentation, population declines, lek abandonment, failure of hens to initiate nests, and loss of productivity (Braun, 1998; Connelly *et al.*, 2000, Lyon, 2000). These impacts have been demonstrated to occur, even when mitigative measures, such as those described in the DEIS, are implemented. The Bureau should include these potential impacts in the analysis, and if still applicable, provide the supporting information for the current no "significant" impact conclusion. 11

Page 4-67, Section 4.7.3.1.5, Raptors: The second paragraph of this section discusses measures to minimize potential impacts to nesting raptors by protecting both active and inactive nests. A no surface occupancy for permanent structures is identified to protect inactive nests that may serve as alternate nesting locations. However, no such stipulation is identified for active nests. In addition, a buffer of 0.5 to 1-mile is identified as being necessary to protect the active nests of all raptor species. If activities within this radius of an active nest might cause abandonment, or reduced productivity, than the 300 m (< 0.25 mile) no surface occupancy around inactive nests will not be sufficient to protect these nests should they be used in the future. 12a While we appreciate the efforts to protect inactive, alternate nests, the above problems with consistency should be resolved, and an appropriate no surface occupancy stipulation should also be applied to active nests. 12

On the same page the DEIS states that all new project-related roads would be closed to public use near active raptor nests to "offset" the potential impact of increased traffic on nest success and productivity. Given the levels of project-related traffic identified in the DEIS, (Table 2.3, page 2-31), restricting only public use of new roads may be insufficient to protect these birds. We request the Bureau consider avoiding road construction near active raptor nests thereby avoiding the potential conflict altogether. 12b

Page 4-68, Section 4.7.3.1.6, Combination of Wildlife Concerns: The DEIS discusses the numbers of potential wildlife concerns by map locations (sections). However, the purpose of this discussion is not identified, nor is it clear how these results will be used by the Bureau for project planning and minimization of potential impacts to wildlife. The Bureau should clarify how this information will be used. For example, will all exception requests be denied in sections of the project area that have more than three wildlife concerns? 13

Page 4-74, Section 4.8.1.2.1, Proposed Action: In the discussion regarding black-footed ferrets, the DEIS states that white-tailed prairie dog colonies were overlapped by raptor nest buffer areas and mountain plover habitat. Therefore, the DEIS concludes that "significant impacts" in these areas of overlap are not expected as long as the mitigation measures for each individual resource 14

is implemented. However, the mitigation measures for both the active raptor nests and mountain plover are limited to seasonal restrictions. No mitigation measures are identified solely for white-tailed prairie dogs. Therefore, mitigation measures for raptors and mountain plovers may do little to protect white-tailed prairie dogs, which may be impacted through surface disturbance, or increased human recreational activities within occupied the colonies outside of these overlapping seasonal restrictions. These impacts can occur at any time of the year. If the Bureau intends to protect white-tailed prairie dogs, minimization measures should be developed specifically for this species. 14

Page 4-79, Section 4.8.1.3, Impacts Summary: In this section, the discussion on threatened and endangered fishes in the Colorado River system concludes that no impacts to these species are expected as a result of project implementation even though water depletions will occur. However, as per the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (January 22, 1988) the Service has determined that any depletion in the Colorado River System may adversely affect these species, and formal consultation under section 7 of the Act is required. This section should be revised to more accurately reflect the impacts of depletions resulting from project development on these species, and we encourage the Bureau to initiate formal consultation. 15

Page 4-80, Section 4.8.1.4, Additional Mitigation Measures: To protect foraging mountain plovers, the Bureau proposes to limit night-time traffic speed and volume from April 10 until July 10. These dates reflect the nesting season of mountain plovers on their breeding ranges. However, adults and broods are typically present in Wyoming for several months after nesting is completed. Therefore, restricting traffic speed and volume only until July 10 may not provide adequate protection for birds foraging along roads. We strongly encourage the Bureau to implement this measure throughout the entire period mountain plovers are present on their breeding range (April 10 until late September). 16

Page 5-16, Section 5.3.7, Wildlife: The DEIS states that additional mitigation measures may be implemented if monitoring indicates there will be "significant" cumulative effects as a result of project implementation. However, the DEIS contains no provisions for adaptive management. Also, on page 5-22, Section 5.3.8.1, the DEIS states that implementation of the wildlife monitoring plan will provide adequate protection from "significant" cumulative effects. 17 However, the wildlife monitoring plan (Appendix H) does not assess cumulative effects for threatened and endangered species. Rather, the plan identifies techniques for determining if a threatened or endangered species is present, and measures to minimize impacts if the species is found. 17a If the monitoring plan is to be used for assessing cumulative impacts, it should be modified accordingly. Also, the Bureau should identify an adaptive management strategy to allow for changes in project implementation should significant cumulative effects be identified, 17b and the supporting information for the current determination that there will be no cumulative impacts to threatened, endangered, and proposed wildlife and plants.

Page 5-19, Section 5.3.7.3, Greater Sage-grouse: The discussion regarding cumulative impacts to the Greater sage-grouse only considers direct habitat loss. However, as previously noted, impacts from energy development to this species may also occur indirectly (see comments 18 above). Therefore, we do not believe the analysis is this section is an accurate reflection of the cumulative impacts to this species. The Bureau should repeat this analysis, incorporating indirect effects and published research to make a final determination. 18

Page B-2, Appendix B: Standard Mitigation Guidelines, Section 2.1, Guidance: The seasonal restriction section of the Wildlife Mitigation Guideline limits the definition of buteos to ferruginous and Swainson's hawks. However, there are several other species of buteos that could be present on the project area, such as red-tailed hawks, Swainson's hawks, etc. Additionally, several species of owls are also omitted from this list of raptors. All species of raptors that could potentially occur on the project area should be incorporated into the Wildlife Mitigation Guidelines. 19

Page H-2, Wildlife Monitoring Plan, Section 2.1, Annual Reports and Meetings: The DEIS states that "...where possible, data presented in reports will be used to identify potential correlations between development and wildlife productivity and/or abundance." However, the plan is not designed to collect the type of data necessary, with the appropriate statistical rigor, to make any meaningful correlations. For example, the only productivity information identified for collection for nesting raptors, which is to occur once every 5 years (page H-4), and no baseline data is going to be collected. There are also no provisions for determining if raptor productivity is being influenced by project development, or other factors, such as cycling in prey bases, weather, etc. Therefore, it will be extremely difficult to accurately use these data for any assessment of project impacts on nesting raptors. We encourage the Bureau to re-draft the monitoring plan to meet the stated objective of determining the effects of development on wildlife productivity and abundance. If this is not possible, the existing plan should be more accurately described as merely describing presence and absence, and a project planning document. 20

Page H-4, Wildlife Monitoring Plan, Section 2.2.1, Raptors: Raptor inventories are only to be conducted every 5 years. Therefore, it is unclear how raptor nest buffer stipulations will be applied if surveys are not conducted annually to determine if nesting raptors are present. The monitoring plan should be modified to allow for annual surveys so that nesting raptors can be adequately protected during project implementation and operation. 21

Page H-8, Wildlife Monitoring Plan, Section 2.2.3.1, Black-footed Ferrets: The Bureau has committed to conducting black-footed ferret surveys, prior to development, in all white-tailed prairie colonies that meet the Service's definition of black-footed ferret habitat. The techniques that will be used to make the suitable habitat determination should be included in this monitoring plan to assist the Bureau and project proponents with project planning. 22

Page H-16, Wildlife Monitoring Plan, Section 2.3., Protection Measures: The Bureau has committed to implementing wildlife protection measures used on other oil and gas development projects, for this current project. While these measures should minimize potential impacts, there has been no evaluation of their effectiveness on previous projects. Additionally, the Bureau should acknowledge that these measures can be waived through the exception process. We request a thorough evaluation of these past measure be made, and if previously ineffective, modified appropriately. Also, the Bureau should clearly outline under what conditions these protection measures will be waived for an exception request by the project proponents. 23

Page H-17, Wildlife Monitoring Plan, Section 2.3.1, Raptor Protection Measures: The monitoring plan states that well locations, roads, ancillary facilities and other surface structures requiring a repeated human presence will be constructed within 825 feet of active raptor nests (1,200 feet of ferruginous hawk nests). But, the plan does not provide any information that demonstrates these distances will be effective in reducing the potential effects of project-related disturbance on nesting raptors. Also, on page 4-67, the DEIS states that no surface structures will be built within 300 m (~ 990 ft.) of inactive raptor nests. The Bureau needs to resolve this discrepancy, and provide the supporting information that the selected buffer distances are adequate to protect nesting raptors. 24

Page H-21, Wildlife Monitoring Plan, Section 2.3.3.5, Yellow-billed cuckoos: The Bureau prohibits construction of well sites, access roads, and pipelines within 500 feet of surface water, for the protection of riparian resources, including the yellow-billed cuckoo. However, the monitoring plan does not identify any provisions to minimize indirect effects to this bird, if it occurs. This should be corrected. 25

The Service appreciates the opportunity to comment on this DEIS. If you have any questions regarding this letter or your responsibilities under the Act, please contact Pat Deibert of my staff at the letterhead address or phone (307) 772-2374, extension 26.

REFERENCES

Braun, C.E. 1998. Sage grouse declines in western North America: What are the problems? Proceedings of the Western Association of Fish and Wildlife Agencies 78:139-156.

Braun, C.E., T. Britt, and R.O. Wallestad. 1977. Guidelines for maintenance of sage grouse habitats. Wildlife Society Bulletin 5:99-106.

Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage grouse populations and their habitats. Wildlife Society Bulletin 28(4): 967-985.

Lyon, A.G. 2000. The potential effects of natural gas development on sage grouse (*Centrocercus urophasianus*) near Pinedalo, Wyoming. Thesis, University of Wyoming, Laramie, USA.

cc: BLM, Wyoming State Office, Cheyenne, WY (J. Carroll)
FWS, NEPA Coordinator, FWS, Denver, CO (C. Young-Dobrowski)
WGFD, Statewide Habitat Protection Coordinator, Cheyenne, WY (T. Collins)
WGFD, Non-Game Coordinator, Lander, WY (B. Oakleaf)

LETTER 146

Duplicate of Letter 125

United States Department of Agriculture **Forest Service** **Bridger-Teton National Forest**
340 N. Cache
PO Box 1888
Jackson, WY 83001-1888

File Code: 2580
Date: June 30, 2003

JUL 2 2003

John Spehar
Project Coordinator
BLM-Rawlins Field Office
PO Box 2407
Rawlins, WY 82310-2407

Dear Mr. Spehar:

This is in response to the Bureau of Land Management's (BLM) Draft Environmental Impact Statement (DEIS) on the proposed "Desolation Flats Natural Gas Field Development Project." The comments addressed in this letter are related primarily to Air Quality. The Forest Service (FS) is very concerned about the effects this project may have on air quality in Southwest Wyoming, particularly in Wilderness areas and National Parks that have been designated as Class I by the Clean Air Act, but also including all wilderness areas managed by the FS.

Recently, there has been a flurry of proposed, large-scale natural gas projects in Southwest Wyoming, including the Jonah II, Continental Divide/Wamsutter II, South Baggs, the Pinedale Anticline Projects and others. Air quality analysis conducted as part of the NEPA process for these projects indicate there is a small cumulative impact from these projects on visibility in nearby Federally Mandated Class I Wilderness areas. Section 169A of the Clean Air Act states, "Congress hereby declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Federal Class I areas which impairment results from manmade air pollution." Adverse impact on visibility means visibility impairment that interferes with the management, protection, preservation or enjoyment of the visitor's visual experience of the Federal Class I area. In accordance with this national goal, the Regional Haze Rule was promulgated in 1999. This rule compels state and federal agencies to improve visibility in the 156 mandatory Federal Cass I national parks and wilderness areas. The rule requires the states, in coordination with the Environmental Protection Agency, the National Park Service, U.S. Fish and Wildlife Service, and the U.S. Forest Service, to develop and implement air quality State Implementation Plans to reduce the air emissions that cause visibility impairment.

In the review of the DEIS for the Desolation Flats Project, the FS has noted some items which need to be addressed in the Final EIS, before an informed decision on the project can be made which will insure the protection of air quality values in Class I and other sensitive wilderness areas. In this letter we will highlight the major deficiencies and describe the problems observed in the review of the DEIS document. Detailed line by line comments are provided in the attached document (Comments on DEIS.doc).

1. Adequacy of the data analyzed

It appears as though the data for this analysis was collected in 2000 or early 2001, and the analysis was done based on that information. Much of the data used was actually older, (i.e., 1987-1995 for visibility) and was not updated with more recent information. It also appears that no effort was made to update either the data or the Reasonable Foreseeable Development (RFD) scenario used in the initial analysis before the final release of the DEIS in April of 2003. Because of this, data used in the 1

analysis is not the most current, and does not reflect current conditions on the ground. In the time from 2001 to now, there have been multiple Natural Gas and Coalbed Methane projects proposed and/or analyzed which would have a direct effect on the cumulative impact analysis of this project. A partial listing of these projects includes: Powder River Basin CBM, Atlantic Rim, Modified Jonah II, Semiooe Road, Wind River, South Piney, Jonah Infill, Vermillion Basin, Copper Ridge and Jack Morrow Hills. All of these projects have a potential to contribute to cumulative air quality impacts in the Class I and sensitive Class II areas you described in your analysis.

For example: Modeling conducted for the Powder River Basin Coalbed Methane Project in Northeastern Wyoming has indicated possible impacts on Class I areas in Western Wyoming. The most recent modeling completed for the Powder River Basin project showed that PM_{10} increments in the Washakie wilderness may be exceeded, and visibility may be impaired 5 days at the Washakie wilderness, 4 days each at the Bridger, Fitzpatrick and North Absaroka wilderness areas and 3 days in the Teton wilderness. This analysis also showed that the acid deposition from the Powder River Basin Project alone would impact Upper Frozen Lake in the Bridger wilderness by increasing acidity by 0.5 ueq/l over baseline conditions, and that cumulative predicted impacts would be 180% of the acceptable change for Upper Frozen Lake. None of this information was presented in your Draft Document for the benefit of the public or the decision makers. However, it is logical to assume that development of 385 additional gas wells (250 producing wells) in the Desolation Flats area compounded with additional compression needed to move the natural gas through supply lines will potentially add to these negative effects on nearby Class I areas. 1

The FS feels the data used in the analysis was not current or adequate. We request that more analysis be done using current air quality data, current emission inventories, an updated RFD scenario including recently proposed projects and the incorporation of large scale impacts modeled by the Powder River Basin CBM project.

2. Significance of Air Visibility Impacts

In the discussion of visibility impacts, the BLM discloses that there are 25 days that exceed the 0.5 dv threshold as a result of the cumulative analysis and that there were seven days that would exceed the 1.0 dv threshold in the sensitive Class I and Class II areas studied. It is also stated the "On only two of the 25 days would the absence of the Desolation Flats change the visibility to levels below the thresholds, and these are for days slightly over 0.5 [delta] dv." This analysis did not include the projected emissions of RFD projects (as mentioned above in 1), or any of those recent projects which have modeled emissions impacts.

The FS has reviewed the days of modeled cumulative impacts that are greater than 0.5 dv change and has determined that the cumulative impacts from the Desolation Flats Project, combined with other recently proposed projects in SW Wyoming that were not addressed in this analysis, are significant in increasing visibility impairment in the Bridger, Fitzpatrick and Popo Agic wilderness areas. It is also expected that if the portions of the Washakie and Teton wilderness areas which are included in the modeling domain were considered sensitive receptors in modeling with the added emissions from the recently proposed projects listed above, that they too would show additional impacts. 2

For the Final EIS, the FS requests additional modeling to be done to include the Washakie and Teton wilderness areas to evaluate if the updated cumulative effects analysis, including recently proposed projects, would have an impact on these sensitive areas.

LETTER 146 cont'd

3. Mitigation

In the DEIS, the BLM does discuss in general some air quality mitigation. However, in light of the modeled cumulative impacts from this project (even without consideration of impacts from the recently proposed projects discussed in items 1 and 2), the BLM needs to provide a better discussion of a wide scale of mitigation options and the related costs. The FS believes that updated cumulative air quality analysis as requested in items 1 and 2 above, will highlight the need for some type of large scale mitigation to occur before this project can be authorized to move into the development stage.

Types of mitigation which could be considered include (but are not limited by):

- Large scale off-site mitigation (emission tradeoff such as completed by Naughton and Ultra Petroleum). This could be in SW Wyoming or possibly in Salt Lake City if the decrease in emissions would benefit the Class I areas.
- Requirement of 50% dust abatement and low NOx compressors.
- Longer phased development (maybe over 100 years).
- Better coordination of activities with other emitters in the area.
- Use of wind generated power to offset emissions from compressors.
- Embracing new technology as soon it becomes available, with a goal of X% reduction in projected emissions in 10 years based on technology. (Note: we are talking about a 30 to 50 year LOP, so a lot can happen.)

3

The FS requests the BLM to conduct an extensive analysis of potential mitigations (to determine costs, practicality and effectiveness) for the Final EIS which may reduce overall emissions affecting sensitive areas, including Class I areas while allowing future gas development to occur. The need for this analysis goes beyond this project, and will become necessary as new projects are proposed, analyzed and developed. 3a

The FS appreciates the opportunity to provide comments to the BLM on the DEIS document for the Desolation Flats Natural Gas Field Development Project. We would like to remain involved in this project to insure that air quality issues related to Class I and Class II wilderness areas are adequately assessed and addressed in the final environmental analysis of this project. Please contact Terry Svalberg, Air Quality Specialist, on the Pinedale Ranger District if you have any questions or have any questions relating to the comments. Terry can be reached at (phone) 307-367-4326 or (fax) 307-739-5750.

Sincerely,

Kniffy Hamilton

CAROLE 'KNIFFY' HAMILTON
Forest Supervisor

Enclosure

cc: Jeff A Sorkin, Levi Broyles, Rebecca Aus

Comments and questions on the:
DRAFT ENVIRONMENTAL IMPACT STATEMENT
Desolation Flats Natural Gas Field Development Project
Terry Svalberg, USDA Forest Service
6/27/03

Item #	Page/section/ paragraph/sentence	Comment	
1	Page 1-12/paragraph 1/4th sentence	This sentence states: "*BLM feels the1145 well number is not completely accurate since it is highly likely many of the abandoned wells have been reclaimed since 1985.*" This implies the BLM does not track reclamation of well sites. Is this true??? Isn't this a responsibility of the land management agency?? Why in the last sentence of this paragraph are you making an assumption of reclamation rather than knowing the status of reclamation of abandoned wells??	4 4a 4b
2	Page 1-12/table 1-4	This data is as of 12/31/01. Is this recent enough or has there been so little change in these numbers to April 2003 that these numbers are still valid???	5
3	Page 1-13/table 1-5	Again, the data presented in this table is from 1999. What are the current numbers??	6
4	Page 1-13/5th paragraph.	This states that: "*Reclamation was assumed to take from 3-5 years in the RMP. Therefore, it can be assumed that most wells drilled before 1996 should be adequately reclaimed.*" This is an assumption based on an assumption. What are the current on the ground conditions of reclamation of these abandoned wells??	7
5	Page 1-18/figure 1-6	Thank you for showing the adjacent development areas in this figure. I believe it gives a good representation of the ongoing activities occurring in the proposed project area.	8
6	Page 3-7/table 3-4	Production rates on several of the gas fields shown here is from 9/2000. Isn't there more recent data available?? This is over two and a half years old, does it represent current conditions???	9
7	Page 3-18/section 3.2.2/paragraph 2	This paragraph states: "*However, five PSD Class I areas identified as sensitive receptors exist within the study area:...*" You should also mention there are three additional PSD Class I areas included (in part) within the study area (Grand Teton National Park, Teton Wilderness and Washakie Wilderness) and list the rational for not including these areas as sensitive receptors. Also, determine if the rationale being used for not including these areas as sensitive receptors are consistent with your modeling results???	10
8	Page 3-20/section 3.2.2/5th paragraph	The standard visual range for the Bridger wilderness should be represented as 175 KM not 175 miles (see table 3-9.	11
9	Page 3-21/Table 3-9	Why were these dates selected for your visibility data baseline???	12
10	Page 3-21/table 3-10	This table should includes a sample number, so the readers have an idea of how much data each point is using to arrive at the background ANC.	13
11	Page 3-22/figure 3-6	This map should show all Class I areas in the analysis area, not just the sensitive receptors. (Grand Teton NP, Teton Wilderness and Washakie Wilderness should be added)	14
12	Page 3-23/figure 3-7 See comment # 34	Is it proper to show visibility in terms of DV??? What is the baseline used??	15

LETTER 146 cont'd

13	Page 3-94/section 3.12.4/2nd paragraph/last sentence	General comment. This sentence states "…at the time of this assessment (spring 2001)." This is consistent throughout many sections of the document (including the air quality portion). The data is presented is pre-2001, and should have been updated to better reflect current conditions, especially in light of the natural gas boom in southern Wyoming in the last couple of years.	16
14	Page 4-9/table 4-2	It is somewhat confusing when your table refers to distances in miles and the text refers to distances in km. Perhaps you should consistently choose one metric or the other, or show both.	17
15	Page 4-12/section 4.2.3.1.1/paragraph 1	What volumes, duration and emissions were used for the flairing of natural gas well evaluation??	18
16	Page 4-12/Well Production Emissions	Are flaring of wells related to increasing production and clearing the lines included in this section??? If so, what volume, durations and emissions were considered. Also, are there no visits to the well by vehicles during the production phase?? Where are these emissions considered??? And, are there any emissions related to reclaiming pads and roads?? Where are these emissions discussed??	19
17	Page 4-21/1st paragraph	Because the 8 hour ozone standard is equaled by this project alone, and given the close proximity (less that 30 miles) of other ongoing developments is the assumption that NAAQS will not be exceeded properly evaluated?? For example…should a cumulative near field analysis be conducted to show the possible cumulative impacts of other nearby developments that occur within 30 miles of the project area along with impacts from the project to properly display the near field effects???	20
18	Page 4-24/section 4.2.3.1.5/2nd paragraph	Why is it assumed that actual background concentrations at Dinosaur National Monument are less than the Regional background data used??? Is there a basis in fact to support this assumption???	21
19	Page 4-24/section 4.2.3.1.5/Visibility Impacts/paragraph 2	This States that: "The Bridger data period was for 1987 through June 30, 1995." Why wasn't more recent data used?? IMPROVE data is currently available through October, 2002.	22
20	Page 4-25/table 4-14	The State of Wyoming does have a PM2.5 Standard on the books (same as the federal standard), and it should be reflected in the table.	23
21	Page 4-29/section 4.2.5/NOx Mitigation/4th bullet	Was wind generation of electricity to power compressors considered??	24
22	Page 4-29/section 4.2.5/NOx Mitigation/5th bullet	Do you have examples of non project related (off-site) NOx mitigation measures that might be considered????	25
23	Page 5-6/section 5.3.2.1/paragraph 1	Thank you for mentioning the NOx reduction at the Naughton Power Plant. It would also be nice if Ultra Petroleum was identified as the proponent that financed the installation of the low NOx burners, which reduced the permitted NOx emissions from the plant by 1,000 tons per year. Companies like Ultra Petroleum that take proactive measures to reduce or mitigate emissions should be acknowledged for their positive efforts and contributions.	26
24	Page 5-6/section 5.3.2.1/paragraph 2	Baseline was cut off at January 2001, so data used in the cumulative analysis is more than 2 years old. Does the data used reflect what has actually happened as far as emissions and projects approved in that 2 year period?? Why was nothing done to include or update the RFD based on projects submitted since January 2001??? (Including but not limited to Atlantic Rim, Modified Jonah II, Seminoe Road, Wind River, South Piney, Jonah Infill and Powder River Basin developments)	27
25	Page 5-8/figure 5-2	Thank you for showing the relative locations of the developments considered in the RFD. I believe this gives readers and decision makers a better picture of what is really happening on the ground.	28
26	Page 5-11/section 5.3.2.3/paragraph 1	This paragraph refers to Section 4.2.8 in 2 places. This section does not exist in the DEIS.	29
27	Page 5-11/section 5.3.2.3/paragraph 1	I assume this refers to section 4.2.3.1.5. The data referred to here is from 1987 to June 1995. Why wasn't more recent data used for the visibility analysis??? Data is currently available through October, 2002.	30
28	Page 5-11/section 5.3.2.3/general comment	The cumulative visibility analysis did not take into account impacts from any projects proposed after January 2001. It also did not take into account the modeled impacts related to the Powder River Basin CBM project.	31
29	Page 5-12/table 5-6 See comment # 34.	I believe this table infers that DV are mathematically additive. However, due to the calculation used to derive DV (DV = 10 * ln[Bext/10 Mn-1]), shouldn't these values be back calculated to the Bext, for comparison and calculation of percent contribution to visibility impairment???	32
30	Page 5-12/section 5.3.2.4/general comment	The cumulative acid deposition analysis did not take into account impacts from any projects proposed after January 2001. It also did not take into account the modeled impacts related to the Powder River Basin CBM project. Can this be reevaluated and displayed in the Final EIS??	33
31	Page 5-13/section 5.3.2.5/general comment	The cumulative visibility analysis and acid deposition analysis did not take into account into account or acknowledge any impacts from any projects proposed after January 2001 as part of the RFD. It also did not take into account the modeled impacts related to the Powder River Basin CBM project which were released in a draft form in January, 2002, and in final form in January, 2003. This Draft report was not released until April, 2003 and should have at least acknowledged potential impacts from these other sources since they were documented in NEPA Documents.	34
32	5.3.2.5/general comment	It appears that this project analysis was started in 2001. and was never updated even though new projects were proposed and/or brought online in the time it took to complete the analysis. At a minimum, projects proposed after 2001, should have been mentioned as potential contributors to impacts. Impacts from these other sources must be considered in any decision being made on this project. The Final EIS should be updated to include this information and an analysis of the current cumulative impacts.	35

33	5.3.2.5/general comment	The discussion of significance of the cumulative impacts does not take into account any developments or proposed developments (RFDs) after 2001. These projects, some of which have completed NEPA documents and decisions prior to the release of this document (i.e., Powder River Basin), are totally ignored in the Air Quality cumulative impact analysis. Because of the level of project modeled cumulative impacts to visibility (without consideration of the post 2001 projects which also show significant impacts), the Forest Service considers the impacts to Federal Class I areas (25 days at the 0.5 dv level and 5 days at the 1.0 dv level) to be significant. The Forest Service would like to see additional modeling in the Final EIS to incorporate updated emissions inventories and impacts from other RFD projects. Additionally, the Forest Service would like to see a complete evaluation of mitigations being considered (including emission offsets) before a decision is made.	36
34	NOTE: Comments on my comments # 12 and 29.	Comments # 12 and 29 (highlighted in yellow) are questions which I had dealing with the use of dv, but due to the tight timeframe for review of this document; I was not able to track down the answers to my questions. I will continue to follow up with specialists in the field of visibility to answer the questions on my own. However, if you have any comments or answers for these questions, I would appreciate a response.	37

LETTER 147

418 E 25th St
Cheyenne, Wy 82001
June 29, 2003

John Spehar, Project Coordinator
Bureau of Land Management
P.O. Box 2407
Rawlins, Wy 82301

RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Dear Mr. Spehar,

I am writing concerning the BLM's Draft Plan for the Desolation Flats Project Area, which would permit drilling 385 conventional gas wells with their associated roads, powerlines, and pipelines.

This area has wonderful scenery, the rugged canyons of Sand Creek and Willow Creek, as well as the eroded badlands of Prehistoric Rim, which are as wild and pristine today as they were in the 1800's. Wild horses make this area home. Outstanding habitat for seriously declining sage grouse and mountain plover is here. Deer, pronghorn, and elk find crucial winter range here.

The BLM should ensure protection for the scenic, wildlife and recreational values of these areas.

First of all, drilling in environmentally sensitive areas, such as wilderness quality lands, roadless lands, and wildlife habitat should not be permitted. Leases should be withdrawn and surface development prohibited on floodplains, roadless areas, wilderness quality land, elk and deer winter range, prairie dog colonies, and mountain plover habitat. There should be no disturbance within three miles of sage grouse leks or one mile of raptor nests. 1

Second, all lands included in the Citizen's AdobeTown Wilderness Study area should be protected. Almost 50,000 acres of wilderness quality lands adjacent to the existing Adobe Town Wilderness Study Area should be protected by including them in a larger Adobe Town Wilderness Study Area.

Third the BLM should adopt a conservation alternative in the FEIS. It should include adequate mitigation and monitoring measures to ensure proper protection for this special area.

Fourth - The least environmentally damaging type of drilling should be required in the final EIS for any development in the Desolation Flats to minimize impact to the wildlife, landscapes and recreation values of these lands. 1

These lands do not belong to the Bush administration or the oil and gas industry. They belong to all the American people today and to Americans in the future.

Thank you for the opportunity to comment:-

Sincerily
Barbara E. Rugotzke

LETTER 148

STAND
By Your Land

*

THE
WILDERNESS
SOCIETY

Conservation is a
great moral issue,
for it involves
the patriotic duty
of ensuring the safety
and continuance
of the nation.

Theodore Roosevelt
1910

*

1615 M Street, NW
Washington, D.C. 20036
www.wilderness.org
(202) 833-2300
FAX (202) 429-8443
1-800-THE-WILD

RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT
[illegible] FIELD [illegible]

June, 26 2003

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Director
P O Box 2407
Rawlins, WY 82301

Dear John:

These comments are on behalf of The Wilderness Society, it's Wyoming members and members nationwide.

We believe that the proposed Desolation Flats Project, just south of Wamsutter and west of Baggs, a place where Butch Cassidy ran wild, will destroy 50,000 acres of the citizens' proposed expansions to the Adobe Town Wilderness Study Area - one of Wyoming's most spectacular set of badlands and geological formations.

This proposed area not only boasts magnificent scenery - like the eroded badlands of Prehistoric Rim and the rugged canyons of Sand Creek and Willow Creek, it also contains outstanding sage grouse and mountain plover habitat, plus serves as crucial winter ranges for deer, pronghorn antelope, and elk.

The BLM's draft plan for the area allows for not only the development of 385 new conventional gas wells, but also for the construction of new roads, power lines, and pipelines that normally go hand in hand with the such construction. We believe that the area contains spectacular public lands with outstanding scenic and traditional recreational value and, is not, as the BLM's name implies, desolate and flat!

The Wilderness Society urges the Bureau of Land Management to:

- **Prohibit drilling in environmentally sensitive, wilderness quality lands or roadless lands that support important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, and wilderness quality lands, crucial elk and deer winter ranges, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests. 1
- **Prohibit drilling in prairie dog colonies.** The project area contains several large white-tailed prairie dog complexes. Prairie dogs are vital to the existence of many rare or imperiled species in the Red Desert including the burrowing owl and the black-footed ferret. One of these complexes may possibly be suitable for future black-footed ferret reintroduction. Therefore the BLM should withdraw these areas from leasing or require "No Surface Occupancy."

STAND
By Your Land

★

THE
WILDERNESS
SOCIETY

Conservation is a
great moral issue,
for it involves
the patriotic duty
of ensuring the safety
and continuance
of the nation.

Theodore Roosevelt
1910

★

1615 M Street, NW
Washington, D.C. 20036
www.wilderness.org
(202) 833-2300
FAX (202) 429-8443
1-800-THE-WILD

- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town WSA. Indeed, the BLM itself admits that at least 15,000 of these acres have are wilderness-quality. All these lands should be protected by incorporating them into the existing Wilderness Study Area.
- **Provide a sufficient analysis of the impacts of the proposed project.** The BLM preferred plan does not go into the detail needed to provide for a sufficient analysis of the impacts of the project. For instance, the DEIS states that there will be 385 wells drilled and about 500 miles of new roads constructed under the preferred plan, but it does not identify the locations of either the wells nor the roads. Without these crucial details, impacts to wildlife, recreation, and visual quality of the area cannot possibly be correctly analyzed. 1
- **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.
- **Make efforts to ensure the protection of the Haystacks,** an area rich in outlaw history, wildlife and birds of prey, and work to acquire the checkerboard lands in this area via purchase or exchange.

Finally we support the comments submitted to you by the Wyoming Outdoor Council and the Biodiversity Conservation Alliance.

Thank you for the opportunity to submit these comments

Bart Koehler

Bart Koehler / Director
The Wilderness Society's Wilderness Support Center
P O Box 1620
Durango, CO 81302

LETTER 149

Tova Woyciechowicz
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RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

June 30, 2003

Dear Mr. Spehar,

I am writing as to comment on the Desolation Flats Natural Gas Field Development Project as a concerned citizen and not on behalf of any organization. During my recent camping trip on the rims of Adobe Town I found myself awestruck by the grandeur of a landscape and the contrasting developments that have been built around it. Hawks soaring above the plains called 'Desolation Flats' instead of acting as harbingers of hope seemed to act as harbingers of increased development. I was overcome with concern that an area which seems on par with national parks like Bryce Canyon could be left virtually unmitigated. I urge you to consider increased protection for the all 50,000 acres of citizen proposed wilderness.

I am aware that current leases may present challenges to full protection, but it is important to prohibit drilling in environmentally sensitive areas. The BLM should consider trading or putting conditions on current leases and stop further leasing for oil and gas drilling on flood plains, road less lands, and wilderness quality lands, crucial elk and deer winter ranges, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests. Drilling should be prohibited in prairie dog colonies. The project area contains several large white-tailed prairie dog complexes. Prairie dogs are vital to the existence of many rare or imperiled species in the Red Desert including the burrowing owl and the black-footed ferret. One of these complexes may possibly be suitable for future black-footed ferret reintroduction. 1

In addition I request that a sufficient analysis of the impacts of the proposed project is conducted. The BLM preferred plan does not go into the detail needed to provide for a sufficient analysis of the impacts of the project. For instance, the DEIS states that there will be 385 wells drilled and about 500 miles of new roads constructed under the preferred plan, but does not identify the locations of either the wells or the roads. Without these crucial details, impacts to wildlife, recreation, and visual quality of the area cannot possibly be analyzed. The analysis should include technologies that have less impact on the environment. Directional drilling would be an excellent option to create a more balanced alternative.

Finally the DEIS should create and adopt a Preservation Alternative in the FEIS. Please consider the special values that gleam in the intricate details of the area Surrounding Desolation Flats Area and work to protect them!

Thank you for your efforts as a public servant!

Sincerely,

Tova Woyciechowicz

1

LETTER 150

BIODIVERSITY CONSERVATION ALLIANCE * WYOMING OUTDOOR COUNCIL
THE WILDERNESS SOCIETY * CENTER FOR NATIVE ECOSYSTEMS
WYOMING WILDERNESS ASSOCIATION * DEFENDERS OF WILDLIFE
HIGH COUNTRY CITIZENS' ALLIANCE * THE FUND FOR ANIMALS
THE WILDLANDS PROJECT * SINAPU

July 1, 2003

John Spehar
Project Coordinator
Bureau of Land Management
P.O. Box 2407
Rawlins, WY 82301

VIA E-MAIL AND FIRST-CLASS MAIL
Comments on the Desolation Flats Natural Gas Project Draft EIS

Dear Mr. Spehar:

The following are the comments of Biodiversity Conservation Alliance, Wyoming Outdoor Council, The Wilderness Society, Center for Native Ecosystems, Wyoming Wilderness Association, Defenders of Wildlife, High Country Citizens' Alliance, The Fund for Animals, The Wildlands Project, and Sinapu on the Desolation Flats Natural Gas Field Development Project. The Draft Environmental Impact Statement for this project is fraught with legal deficiencies, omissions, and ecological problems. We, the undersigned groups representing hundreds of thousands of members nationwide, believe that this is a poorly conceived project and should not be allowed to move forward at least until after the Record of Decision is signed on the revision of the Great Divide Resource Management Plan. Please respond to these comments in detail in the Final EIS for this project, and send us all future correspondence related to this project.

In their *Inventory of Significant Geologic Areas in the Wyoming Basin Natural Region*, compiled under contract with the National Park Service in 1973, the authors noted that "The greatest natural value of this area is that it is still a 'howling wilderness.'" (at p. 187). The authors of this report gave the Washakie Basin the highest rating for priority in evaluation for National Natural Landmark designation. A later study tiled *Potential Natural Landmarks in the Wyoming Basin*, released in 1976, rated the area as having the highest rating for ecological and geological values, a rating that reflects "high degree of national significance, recommended without reservation." at pp. 216-218. In 1979, the National Park Service and the Heritage Conservation and Recreation Service identified the resources of the Washakie Basin as possessing nationally significant and threatened natural-ecological-geological features and listed the basin as a possibility for new study and potential inclusion as a national park, underscoring the outstanding natural attributes of the area. That this area should become a highly industrialized gas development field is repugnant in the extreme.

LEGAL DEFICIENCIES

The Draft Desolation Flats EIS (hereinafter 'DFEIS') contains a number of major violations of federal law which prevent the BLM from implementing the Proposed Action as written.

I. Proceeding with the Desolation Flats Project Violates Both NEPA and FLPMA

A. The Reasonable Foreseeable Development Scenario Has Been Exceeded

As part of RMP development and amendment, BLM must consider the cumulative impacts for
the reasonable foreseeable development (RFD) scenario for the resource area in allowing oil and
gas development. When an RFD scenario has been exceeded, all oil and gas operations must stop
because: 1) their impacts have not been addressed in a resource area wide NEPA document,
usually the EIS accompanying the RMP and, 2) they are inconsistent with the governing land use 1
plan.

The Great Divide RMP was finalized in 1990 and has not been amended or revised since that
time to allow for a higher RFD scenario. Since the Great Divide RMP was approved with a
reasonably foreseeable development scenario of 1,440 wells over the life of the Plan, 1,628 wells
have already been drilled (John Spehar, pers. comm.). The RFD scenario for the Plan has already
been exceeded by almost 200 wells, and now this project would propose to add another 300-500 1a
wells. When combined with the 1,200 CBM wells forecasted for the Seminoe Road project, not
to mention the nearly 4,000 CBM wells anticipated for the Atlantic Rim project, it is indisputable 1b
that the RFD has been exceeded many times over. This is admitted by BLM at p. 1-12 of the
DEIS by noting over 2,105 completed within the resource area and nearly 6,000 total since the
RMP. Plugged and abandoned wells *do in fact* count toward the RFD totals as their impacts
(weed infestation, surface disturbance) are felt years beyond abandonment. BLM admits there 1c
are 2,310 active wells now within the resource area, and does some mathematical gymnastics
(e.g., assuming all dry and abandoned wells are fully reclaimed) to assert the RFD has not been
exceeded. Moreover, the true number of wells should properly include some or all of the 2,774
so-called plugged and abandoned wells – because, despite BLM's claim that they've been 1d
reclaimed, the Wamsutter II analysis in 1998 noted many of the P&A wells since 1985 had *not*
been reclaimed within 13 years. DEIS at 1-12.

BLM often contends in these situations that although a RFD has been exceeded, more wells can
be drilled with their attendant impacts because the RMP/EIS purportedly "overestimated" surface
disturbance, thus allowing for more wells. In its "Environmental Consequences" section, the
Great Divide EIS lists as "anticipated developments" of 16,092 acres of oil & gas development
over the next 20 years. DEIS at 1-13. However, this current project adds 5,000 disturbed acres, 1e
in addition to the acreage affected by the Seminoe Road, Atlantic Rim, Mulligan Draw, Greater
Wamsutter Area II, Continental Divide/Wamsutter II, Creston/Blue Gap, Uinta Basin Lateral
Pipeline, Hay Reservoir Unit, South Baggs Area and Vermillion Basin projects.

Here, we ask two things of BLM in the FEIS: first, the total acreage affected or allowed by the 1f
project authorizations to be affected for these oil and gas fields in relation to the cumulative
acreage allowed in the RMP and in relation to the year by year anticipated disturbances. Second,
as a RFD scenario necessarily sets the cap on a cumulative impacts analysis, which includes all 1g
forms of development, we ask BLM for the entire Great Divide Resource area, to ensure that the

acreage totals requested above include all state, private and federal development from the 1990 RMP (1987 DEIS) to the present day. The sum total of these projects studied, authorized or led 1h to over 5,000 wells, many of which are within the Great Divide resource area. Therefore, we suspect that the cumulative impacts analysis of the RMP, tied to its far-exceeded RFD, does not allow for this current proposal. In short, the Great Divide RMP needs to be revised first to allow for this project. We note that any argument that BLM can do the RMP revision and the current EIS simultaneously, violates a fundamental principal of NEPA that an agency, here BLM, not 1i undertake *any* action that may jeopardize the full range of alternatives in the revised RMP, which may include very different conditions of approval and mitigation measures for wildlife and other resources than are proposed for this project.

B. Exceeding the RFD Violates NEPA.

New oil and gas projects approved after an RFD has been exceeded violate the National Environmental Policy Act (NEPA). NEPA sets forth a "national policy which will encourage productive and enjoyable harmony between man and his environment [and will] promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man." 42 U.S.C. § 4321. NEPA does not establish substantive environmental standards, or prescribe a regulatory program; rather, it is "action forcing, requiring an agency to take a 'hard look' at environmental consequences." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989).

NEPA's purpose is to maintain a national "look before you leap" policy in regard to all major federal actions. Congress' intent in establishing this objective was to avoid uninformed agency decisions that could have serious environmental consequences. Thus, NEPA's mandate is that all federal agencies analyze the likely effects of their actions, as well as address the potential 1 alternatives. "Agencies are to perform this hard look *before* committing themselves irretrievably to a given course of action so that the action can be shaped to account for environmental values. NEPA § 102(2)(c) requires the agency to consider numerous factors [including] irreversible commitments of resources called for by the proposal." Sierra Club v. Hodel, 848 F.2d 1068 (10th Cir. 1988) (reversed on other grounds)(emphasis added). NEPA provides procedural protections for resources at risk by requiring analysis of impacts *before* substantial decisions are made that set development in motion. See Conservation Law Foundation v. Watt, 560 F. Supp. 561, 581 (D. Mass. 1983), aff'd by Massachusetts v. Watt, 716 F. 2d 946 (1st Cir. 1983).

The current EIS process for this specific project in no way cures the fundamental RFD/cumulative impact violations. Each oil and gas project tiers back to the Great Divide RMP which, as a planning document, is the only comprehensive look at oil and gas impacts in the resource area. The project level EAs and EISs focus on the site-specific impacts of the proposed projects – and not the entire planning area. The RFD in the Great Divide RMP was there for a purpose – analyzing the foreseeable wells that would be developed (drilled, spudded, completed or approved) and then basing the entire cumulative impacts analysis on that number. When that number has been reached, the impacts analyzed have also necessarily been reached, and the limitations of the planning document have thus been met. To then allow more wells and massive 1j projects for more oil patches undermines not only the FLMPA planning process, but also, the direct and cumulative effects analysis under NEPA for oil and gas in the planning area.

C. Exceeding the RFD Violates FLPMA

The second statute BLM is violating here is the Federal Land Policy Management Act of 1976 (FLPMA). FLPMA requires that decisions, permits and other authorizations conform to the approved RMP for the leased area. Specifically, FLPMA provides that "[t]he Secretary shall manage the public lands under principles of multiple use and sustained yield, in accordance with the land use plans developed by him under section 1712 of this title ..." 43 U.S.C. §1732. After 1 BLM develops an RMP, all future resource management authorizations and actions, as well as subsequent planning efforts, shall conform to the approved plan. 43 C.F.R. § 1610.5-3(a). "Conformity" means, "that a resource management action *be specifically provided for in the [RMP]*, or if not specifically mentioned, shall be clearly consistent with the terms, conditions, and decisions of the approved plan or plan amendment." 43 C.F.R. § 1601.0-5(b) (emphasis added).

FLPMA calls for an immediate halt to further project approvals in the Great Divide resource area 1k because BLM has exceeded the level of development authorized under the RMP. In fact, BLM has admitted that as many as 5,000 wells are foreseeable in the resource area based on approved and ongoing projects, yet its RMP considers the prospect of only 1,440 wells. At present, the number of wells on the ground, and certainly those under consideration, and the present-day RFD scenario far exceeds the limits set by the 1990 RMP. By exceeding these baselines to such a degree, BLM has clearly ignored the regulatory directive established by 43 C.F.R. § 1610.5-3(a), 1l as these projects and well approvals are outside anticipated levels of the RFD and therefore an action that does not conform to the RMP.

BLM further violated its own planning regulations by failing to amend the RMP prior to this and 1m other projects. BLM "shall" initiate and complete a plan amendment when "a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions and decisions of the approved plan." 43 C.F.R. § 1610.5-5. The point here is rather simple: the RMP allowed for a certain number of wells that it considered in its RFD cumulative impacts analysis. When that number had been surpassed, and will continue to be surpassed with additional project 1n and APD approvals, the RMP must be amended to account for and thoroughly analyze this predicted future development. The current revision process of the Great Divide RMP does not help "cure" any NEPA or FLPMA deficiencies for projects already approved in the interim.

D. Interim Project Approvals During a RMP Revision Violates NEPA

Unfortunately for BLM, its legal problems with the Desolation Flats project do not end with the RFD problem. As a further admission that its RMP is outdated and did not predict or analyze the current level of oil and gas activity, BLM is now revising the RMP. Continuing to lease lands 2a before the revised RMP is released violates NEPA.

Amending the RMP is significant in that it involves an EIS, triggering 40 C.F.R. § 1506.1. That regulation provides: 2

> **Limitations on Actions During NEPA Process**
> (a) Until an agency issues a record of decision . . . no action concerning the proposal shall be taken which would:
>
> (1) Have an adverse environmental impact; or
> (2) Limit the choice of reasonable alternatives.

40 C.F.R. § 1506.1(a). See also 40 C.F.R. § 1502.2(f) (stating agencies "shall not commit resources prejudicing selection of alternatives before making a final decision."). This prohibition strictly applies when the interim project will prejudice the ultimate decision of a program. 40 C.F.R. § 1506.1(c)(3). Interim action prejudices the ultimate decision of a program when it tends to determine subsequent development or limit alternatives. 40 C.F.R. § 1506.1(c)(3). 2

One of the critical issues BLM addresses during RMP amendment/revision for existing leases is what types of post-leasing conditions of approval and mitigation measures should attach at the APD stage to proposed development. The point here is rather simple – information may be gained during the RMP revision process in terms of wildlife protective measures, new technologies that should be employed to reduce impacts and other impact-reducing measures. To proceed with a major EIS and natural gas field approval *now*, *before* those new measures are developed, studied and adopted, may authorize a project with different (and most likely, more lenient) mitigation measures than those developed in the new RMP. Accordingly, proceeding in this fashion jeopardizes the full range of alternatives for the RMP revision as the oil and gas issues for this project area of 225,000 acres will already have been decided. 2b

II. Illegal Deferral of Analysis to Subsequent Stages of Development

The BLM has deferred any hand in the management of oil and gas development in the DFPA to market forces, abdicating its responsibility to actively manage oil and gas development. According to the DFEIS, "The precise number of additional wells, locations of the wells, and timing of drilling associated with the proposed natural gas development project would be directed by the success of development drilling and production technology and economic considerations such as the cost of development of leases within the project area with marginal profitability." DFEIS at 2-1. The BLM later states, "Accurately predicting the total number of wells and the timing of drilling operations is difficult due to the limited amount of natural gas exploration and the geologic complexities in the DFPA." DFEIS at 2-3. We would humbly submit that the BLM could accurately predict the number and location of all future wells in the planning area with 100% accuracy if these variables were set in stone in the DFEIS as they should be according to law. But according to federal law, the number of additional wells, well locations, timing of drilling and construction should not be dictated by market forces, but by environmental and multiple use considerations. 3a

NEPA's mandate is that all federal agencies analyze the likely effects of their actions, as well as address the potential alternatives. "Agencies are to perform this hard look *before* committing themselves irretrievably to a given course of action so that the action can be shaped to account for environmental values." NEPA § 102(2)(c) requires the agency to consider numerous factors [including] irreversible commitments of resources called for by the proposal." Sierra Club v. Hodel, 848 F.2d 1068 (10th Cir. 1988) (reversed on other grounds). NEPA provides procedural protections for resources at risk by requiring analysis of impacts *before* substantial decisions are made that set development in motion. See Conservation Law Foundation v. Watt, 560 F. Supp. 561, 581 (D. Mass. 1983), aff'd by Massachusetts v. Watt, 716 F. 2d 946 (1st Cir. 1983). 3

The current EIS eloquently states that the "purpose" of the EIS process is to "provide the decision-makers with information needed to make a final decision that is *fully informed and based on factors relevant to the proposal*. It also documents analyses conducted on the proposal and alternatives in order to identify environmental impacts and mitigation measures necessary to address issue." DEIS at 1-9 (emphasis added). Further, BLM states, "This EIS analyzes the effects of well pad locations, access roads, production facilities, pipelines, and other facilities associated with natural gas development on resources and land use within the project area." DEIS at 1-10.

If only *any* of this were true. BLM's stated purpose of the EIS, also the requirement of federal law, is crushed by page 2 of its Executive Summary: BLM can only say that 361 wells locations and 2 to 4 wells per section (and all of then attendant roads and other infrastructure) will be "where hydrocarbons are countered" and on a sporadic/non-uniform basis throughout the 225,000 acre planning area. Operators would not be required to submit locations of roads or impacts until the Application for Permit to Drill, Notice of Staking, and/or application for Right-of-Way stage, just prior to drilling; this fact would hold true regardless of whether an action alternative was implemented or denied. DFEIS at 2-6. In essence, then, this EIS will not look at the actual impacts of the proposed project, but instead masks a massive quarter-million acre oil and gas exploratory project in the name and guise of a thorough hard look at site-specific impacts in a project level document. 3b

Under the DFEIS, the BLM repeatedly defers analysis mandated by NEPA to a later point in time. Under the Proposed Action, seeding mixtures and stabilization requirements for disturbed areas are deferred to the APD/ROW stage. DFEIS at 2-37. Seed mixtures in crucial big game winter range designed to optimize wildlife habitat would also be outlined at the APD stage. DFEIS at 2-38. Site-specific surveys for Threatened and Endangered Species and BLM Sensitive Species would be deferred until just prior to surface-disturbing activities. DFEIS at 2-37. Invasive/noxious weeds planning and strategies would be deferred until "the preconstruction planning and design process." DFEIS at 2-37. All of these analyses and mitigation measures must be fully evaluated and presented in the Desolation Flats EIS, rather than deferring them to some later point in time. 3

BLM further admits that some of the proposed wells would be "exploration" because natural gas potential has not been totally defined due to geological complexities. More startling is the admission is that "the precise number of additional wells, *locations* of wells, and timing of drilling associated with the proposed natural gas development project would be directed by the success of the development drilling and production technology and economic considerations such as . . . marginal profitability." DEIS at 2-1 (emphasis added). Again, these and other statements within the EIS undermine its entire purpose – BLM is wholesale admitting it has absolutely no idea where wells will be located, or for that matter, whether there'll be a certain number due to profitability. It naturally follows then, that road, pipeline, compressor and other infrastructure locations are also big question marks looming over this proposal. 3c

The problem? In what conceivable world is BLM then going to be able to actually address site-specific impacts to soils, vegetation, wildlife, surface waters and cultural resources, with this scant information. In reality – and as documented throughout this DEIS – the agency cannot, and this creates yet another problem. Once the project is approved, BLM will then take on APDs and tier back to this EIS for the majority of impacts, and voila, one of BLM's favorite shell games is uncovered: push off important environmental analyses that could be done in the present if BLM bothered to go out and collect information and survey existing resources, to later stages of development – and at that time, "tier back" to the nonexistent analysis in these project level documents. 3d

In the end, the result is that very little gets analyzed, and that that does, is analyzed in a piecemeal fashion, APD by APD instead of comprehensively at the project-level stage. Given that this EIS by BLM's own admissions cannot accomplish its core objectives, a better manner of proceeding in this situation where there is *no* information on likely producing reserves (and thus well pads, etc.), is to allow a few exploratory APDs to gather the necessary information for a proper EIS that could look at, plan for, analyze and mitigate impacts across a 225,000 acre swath of public land. As formulated and proposed, the current EIS can accomplish none of that, and beyond its future impermissible use in BLM's constant impact analysis shell game, it is a waste of the taxpayer's time and money. 3e

A related serious flaw that permeates the entire EIS concerns qualitative versus quantitative impact assessments. BLM has mastered the obvious in being able to state the *types* of impacts but has done very little in actually telling the public *what the actual impacts to various resources will be*. Examples include: roads will fragment wildlife habitat; compressor stations will cause noise; soil loss will affect vegetation communities; produced wastewater will increase sedimentation; hundreds of wells/miles of roads will cause soil loss, and on. However, the point of NEPA is to study and disclose what the actual impacts will be. In other words, we are asking here for more than a 4th grade level of impact analysis, e.g.: what will impacts be by species, location and distinct populations of wildlife due to roads; with displaced vegetation communities, what types of new species will invade and how long will it take to reach equilibrium; how will increased sedimentation affect aquatic life; and what are impacts to species, vegetation, ecological functions, etc., from thousands acres of soil loss? 3e 3

Simply stating the obvious that massive industrial development will cause qualitative impacts really misses the point of a NEPA analysis; in the new EIS BLM prepares it must look at what the actual degree of impacts will be. As with other areas, this deficiency by BLM will result in the federal courts sending BLM back the EIS to try again. See, e.g., Defenders of Wildlife, 130 F. Supp. 2d 121, 128 (D. D.C. 2001) (setting aside agency's EIS where it "states that noise would be increased and both the pronghorn and their habitat would be disturbed" but contained "no analysis of what the nature and extent of the[se] impacts will be"); National Parks & Conservation Association v. Babbitt, 241 F.3d 722, 743 (9th Cir. 2001) (NEPA document inadequate where it identified "an environmental impact" but "did not establish the intensity of that impact."); Neighbors of Cuddy Mountain v. U.S. Forest Service, 137 F.3d 1372, 1379-80 (9th Cir. 1998) ("General statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided. . . . Nor is it appropriate to defer consideration of cumulative impacts to a future date. . .").

Therefore, without an analysis of the on-the-ground effects that are likely to flow from the various "risks" identified in the EIS, there is no way for either the agency or the public to make a meaningful evaluation of competing alternatives – which, after all, is the core purpose of preparing a NEPA document in the first place.

III. Failure to Obtain Baseline Data

4

One of the most important aspects in an EIS is to adequately and accurately describe the affected environment such that impacts can be properly evaluated. In the present DEIS, BLM failed to live up to this standard, resulting in another NEPA violation. Some examples include no baseline data for: prairie dog population sizes, populations (and sometimes even occurrence data) for other BLM Sensitive Species, and locations of historic trails known to lie within or near the Desolation Flats Planning Area (DFPA). Site-specific surveys for Threatened and Endangered Species and BLM Sensitive Species would be deferred until just prior to surface-disturbing activities; no surveys were conducted for these species prior to the publication of the Draft EIS for Desolation Flats. DFEIS at 2-37. BLM also admits that "specific air quality monitoring has not been conducted within the project area." (DFEIS at 3-18), a substantial failure to gather baseline air quality data. These are just a few of the categories – another glaring example is lack of cultural and historical surveys for 90% of the Basin – that render the subsequent impact analyses in the DEIS defective. 4a 4b 4c 4d 4 4d2

Importantly, 40 C.F.R. §1502.15 requires agencies to "describe the environment of the areas to be affected or created by the alternatives under consideration." Establishment of baseline conditions is a requirement of NEPA. In Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." The court further held that, "The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process." Clearly, BLM has failed this basic duty in this DEIS and must provide this information in a second draft EIS so that environmental consequences can be satisfactorily assessed. 4e

IV. The BLM Fails to Analyze a True 'No Action' Alternative

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Pursuant to NEPA, the "no action" alternative (40 C.F.R. § 1502.14(d)) is supposed to give a baseline comparison for which to compare the impacts of the different action alternatives. The only way to properly do that is a no action alternative that does not allow, at least theoretically, any action. BLM failed to do this – see, e.g., DEIS at 2-3, 2-5, and instead, provided for APDs to be approved on federal lands on a case-by-case basis. This approach is problematic on at least two levels. 5a

First, the alternative allows action, which is rather obviously at odds with a "no action" alternative. While BLM is accurate in saying that its post-leasing ability to preclude all drilling is limited (and therefore must allow some drilling, just not *each* APD), it confuses this legal requirement with the purpose of a no action alternative, which is to assume no action for purposes of establishing a proper baseline comparison. Second, the "no action" alternative, as it is set up, allows for no meaningful impacts analysis. How in the *world* is BLM supposed to analyze the impacts of APDs that may be granted, and more particularly, "on a case-by-case" basis, in as of yet unknown places? The description of the no action alternative – that it would allow ad hoc APD permitting in unknown places affecting unknown resources – is a far cry from a meaningful look at what the impacts would be of this project assuming that truly no action for oil and gas took place on federal lands. It is also an industry dream: wildcat-by-wildcat exploratory wells, one APD at a time, throughout a massive chunk of federal land with no comprehensive EIS. In short, the entire no action alternative needs to be reworked in another EIS. 5b 5c 5d

V. Range of Alternatives and Mitigation Measures

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BLM has failed to take a hard look at the full range of reasonable alternatives, a fundamental underpinning – the "heart" – of an EIS. 40 C.F.R. § 1502.14. In the present case, there are only two action alternatives, one allowing 385 wells and the other at 592. No differing alternatives were offered that looked at first finding out the gas reservoir potential of the focus areas (to then build upon in an EIS if full field development was proposed), at different spacing patters, 6a multiple completions per well pad in different numbers, multiple directional and horizontal wells from pads to reduce impacts and a resource protection alternative, to name a few.

BLM should note that this basic, fundamental requirement that is the touchstone of *every* EIS has not gone unnoticed on the federal judiciary in sending back EISs that fail to meet this 6b requirement. See e.g., Calvert Cliffs, Coordinating Comm., Inc. v. United States Atomic Energy Comm'n, 449 F.2d 1109, 1114 (D.C. Cir. 1971) (detailed EIS required to ensure that each agency decision maker has before him and takes into account all possible approaches to a particular project . . . which would alter the environmental impact and the cost-benefit balance); Natural Resource Defense Council v. Callaway, 524 F.2d 79, 93 (2d Cir. 1975); ("The duty to consider reasonable alternatives is independent from and of wider scope than the duty to file an environmental statement."); Simmons v. United States Army Corps of Engineers, 120 F.3d 664, 660 (7th Cir. 1997) ("The highly restricted range of alternatives evaluated and considered violates the very purpose of NEPA's alternative analysis requirement: to foster informed decision making and full public involvement."); Alaska Wilderness Recreation & Tourism v. Morrison, 67 F.3d 723, 729 (9th Cir. 1995) ("The existence of a viable but unexamined alternative renders an environmental impact statement inadequate."); Dubois v. U.S. Dept. of Agric., 102 F.3d 1273, 1288 (1st Cir. 1996) (EIS invalid because agency did not consider alternative of using artificial water storage units instead of a natural pond as a source of snowmaking for a ski resort); Libby Rod & Gun Club v. Poteat, 457 F. Supp. 1177, 1187-88 (D. Mont. 1978), rev'd in part on other 6 grounds, 594 F.2d 742 (9th Cir. 1979) (Army Corps violated NEPA in an EIS for a hydroelectric dam by only cursorily addressing the alternatives of meeting the Northwest's energy needs through other sources or conservation.); Northwest Envt'l Defense Center v. Bonneville Power Admin., 117 F.3d 1520, 1538 (9th Cir. 1997) ("An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action.")

The present DEIS has only two action alternatives that are practically the same. This type of 6c limited and narrow range of alternatives has met a similar fate in the courts. See State of California. v. Block, 690 F. 2d 753 (9th Cir. 1982) ("Consideration of alternatives which lead to similar results is not sufficient under NEPA . . ."); Citizens for Environmental Quality v. Lyng, 731 F. Supp. 970, 989 (D. Colo. 1989). (Forest plan alternatives inadequate because all involved high levels of unprofitable timber cuts.)

The failure to look at the full range of reasonable alternatives is related to BLM's duty in any EIS to develop, study, analyze and adopt mitigation measures to protect other resources. The ability to adopt post-leasing mitigation measures – see 43 C.F.R. § 3101.1-2 – is quite broad, as all reasonable measures not inconsistent with a given lease may be imposed by BLM. This is particularly true given that BLM, pursuant to FLPMA, must manage public lands in a manner that 6d does not cause either "undue" or "unnecessary" degradation. 43 U.S.C. § 1732(b). Put simply, the failure of BLM to study and adopt these types of mitigation measures – especially when feasible and economic – means that the agency is proposing to allow this project to go forward with unnecessary impacts to public lands, in violation of FLPMA.

Some examples of a lack in range of mitigation measures include the BLM's proposal to mitigate 6e for impacts to sage grouse leks with a No Surface Occupancy (NSO) buffer of only ¼ mile, rather than the 2-3 mile buffer that is supported in the scientific literature; the BLM's maximum of a ¼ - 6f mile NSO buffer for the Cherokee Trail, without considering a much larger (3-5 mile) buffer that would protect the trail's viewshed and setting; and the BLM's maximum NSO buffer of only 6g 1,250 feet for raptor nests, when studies indicate that a buffer of ¼ mile to 2 miles is warranted.

BLM also adopted many standard conditions of approval and mitigation measures without taking a hard look at whether these measures are effective – numerous oil and gas projects in this region 6h have adopted many of the same mitigation measures over the past twenty years and BLM failed to inventory these sites to measure their effectiveness. 40 C.F.R. § 1502.22 is triggered here. This provision requires "the disclosure and analysis of the costs of uncertainty [and] the costs of proceeding without more and better information." 6i Southern Oregon Citizens Against Toxic Sprays, Inc. v. Clark, 720 F.2d 1475, 1478 (9th Cir. 1983). "On their face these regulations require an ordered process by an agency when it is proceeding in the fact of uncertainty." Save Our Ecosystems v. Clark, 747 F.2d 1240, 1244 (9th Cir. 1984).

This NEPA regulation imposes three mandatory obligations on the BLM in the face of scientific 6 uncertainty: (1) a duty to disclose the scientific uncertainty; (2) a duty to complete independent research and gather information if no adequate information exists unless the costs are exorbitant or the means of obtaining the information are not known); and (3) a duty to evaluate the potential, reasonably foreseeable impacts in the absence of relevant information, using a four-step process. Unless the costs are exorbitant or the means of obtaining the information are not known, the BLM 6j must gather the information in studies or research. 40 C.F.R. § 1502.22. Thus, the present EIS is deficient by not taking a hard look at the effectiveness of the chosen mitigation measures, and particularly so given the duty to look at, and availability of, readily accessible data from projects such that totaled 1,775 oil and gas wells drilled *before* 1987, or 16 years ago. DEIS at 1-12. That means there is a *lot* of readily available data out there that BLM has ignored in evaluating the 6k effectiveness of the mitigation measures in this case. Simply listing and not analyzing the effectiveness of these measures also results violation of NEPA. See Northwest Indian Cemetery Protective Association v. Peterson, 764 F.2d 581, 588 (9th Cir. 1985), rev'd on other grounds 485 U.S. 439 (1988) (where the court determioed that NEPA requires agencies to "analyze the mitigation measures in detail [and] explain how effective the measure would be. ... A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.").

VI. The Desolation Flats DEIS Exemplifies the Wyoming BLM's Failure to Address the Cumulative Actions of Oil and Gas Development in the Greater Green River Basin.

NEPA regulations define the circumstances under which multiple related actions must be covered by a single EIS. 40 C.F.R. § 1502.4. To determine the proper scope of an EIS, agencies must consider three types of actions: 1) connected actions, "which means that they are closely related and therefore should be discussed in the same impact statement;" 2) cumulative actions, "which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement;" and 3) similar actions, "which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that 7 provide a basis for evaluating their environmental consequences together, such as common timing or geography." 40 C.F.R. § 1508.25. Furthermore, the regulations state that agencies such as the BLM should include such actions on once statement "when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement." *Id.*[1]

The BLM's decision to analyze the Desolation Flats Natural Gas Field Development Project with in independent DEIS provides an example of BLM Wyoming's chronic failure to meet its NEPA obligations by addressing cumulative and similar actions together in one NEPA document. As will be discussed in detail below, there are numerous other proposed actions for oil and gas development in the Green River valley have cumulatively significant impacts and should therefore be discussed in the same impact statement. There are also numerous similar actions, either proposed or reasonable foreseeable, that provide a basis for evaluating their environmental consequences together.

In *Kleppe v. Sierra Club*, 427 U.S. 390, 409 (1976), the Supreme Court noted that NEPA may require a comprehensive impact statement in certain situations where several proposed actions are pending at the same time. Thus, when several proposals for actions that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequences must be considered together. *Id.* at 410. Therefore, where, as is the case in the Upper Green Valley where several oil and gas development projects will have a cumulative or synergistic environmental impact on a region are pending concurrently before an agency, those environmental consequences must be considered together. "[O]nly through comprehensive consideration of pending proposals can the agency evaluate different courses of action." *Id.*

The Council of Environmental Quality (CEQ) regulations address the need to prepare programmatic impact statements. The regulations define "major federal actions" to include "adoption of programs, such as a group of concerted actions to implement a specific policy or plan; systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive directive." 40 C.F.R §1508(b)(4).

The CEQ regulations also require broad federal actions to be evaluated (1) Geographically, including actions occurring in the same general location, such as a body of water, region, or metropolitan area and (2) Generically, including actions which have relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter. 40 C.F.R. §1502.4(b). More important, environmental impact statements are to be prepared on these broad programs before they reach the stage of investment or commitment likely to "determine subsequent development or restrict later alternatives." §1502.4(c). *Environmental Defense Fund, Inc. v. Adams*, 434 F. Supp. 402 (D.D.C. 1977) (holding that the scope of a program impact statement required similar "geographic, temporal, and subject matter."); *Natural Resources Defense Council, Inc. v. Hodel*, 435 F. Supp. 590 (D. Or. 1977), *aff'd on other grounds sub nom. NRDC v. Munro*, 626 F.2d 134 (9th Cir. 1980) (requiring a program impact statement for regional power planning in the Pacific Northwest). 7

An evaluation of the BLM's recent authorizations demonstrates a lack of compliance with NEPA. The BLM has authorized and is currently authorizing numerous projects in the Upper Green Valley, while simultaneously revising its Great Divide and Pinedale Resource Management plans, in a manner that avoids any meaningful, comprehensive environmental analysis of the impacts of oil and gas development in the Valley. This not only results in fragmented analysis but also forecloses any opportunity to look at reasonable alternatives and assess how development should occur. In addition to the two RMP revisions, the BLM is also proceeding with in the Green River Valley with numerous individual projects including (1) the South Piney Project, proposing up to 210 coalbed methane wells; the Jonah Infill project, authorizing up to 850 additional wells in the Jonah Field; the Jack Morrow Hills with 255 proposed wells; the Seminoe Road Project, allowing development of up to 1,240 coalbed methane wells and a host of smaller projects. These projects are all *in addition* to the new developments proposed in the Great Divide and Pinedale RMP revisions.

As the CEQ regulations and related case law make clear, the BLM's lack of any programmatic, comprehensive analysis of cumulative actions in the same geographic area violates NEPA by restricting later alternatives and fragmenting the true impacts of the oil and gas development. For this reason, we ask the BLM to take a step back and take a comprehensive approach to its land management. BLM should place all proposed development projects on hold pending revision of the Great Divide and Pinedale RMPs. This will ensure that the two RMPs can accurately and adequately address the ecological impacts of proposed oil and gas development on the region as a whole before proceeding with further action and will allow the agency preserve its ability to make important management decisions regarding the further oil and gas development in the Green River Valley. 7

FACTUAL AND SUBSTANTIVE DEFICIENCIES

There is No Purpose and Need for this Project 8a

There is no purpose and need for the BLM to consider moving ahead with the Desolation Flats project. First of all, according to John Spehar of the BLM, Marathon Oil, the proponent of this project, is currently trying to sell off its leases in the area rather than moving forward with development (John Spehar, pers. comm., conversation of June 4, 2003). While we can certainly see that having a blanket approval for 385 wells already in place might increase the value of Marathon's leases on the selling block, it is not the BLM's job to spend taxpayer dollars on an EIS that serves only to enhance the financial standing of a leaseholder that is engaging in speculation on the oil and gas lease market.

Secondly, the BLM's 'No Action' Alternative (which in fact continues drilling on valid existing leases, rather than implementing no action) would authorize the drilling of 23 additional wells in the Mulligan Draw area and 34 additional wells in the Dripping Rock Springs area, plus additional wells outside these project areas on a case-by-case basis. DFEIS at 2-5 and 2-6. Thus, gas development on existing lease will continue even if an 'Action' alternative is not selected, as if the Desolation Flats EIS had never existed. 8b

8 The DFEIS is not a programmatic, regional EIS; this role is filled by the Great Divide Resource Management plan, to which the DFEIS is tiered. The DFEIS is also not a project-level document, since no well, road, or pipeline locations are presented, and additional EAs will be needed for groups of wells even in an 'Action' alternative is approved for the Desolation Flats project. Furthermore, in the absence of detailed, site-specific analysis of where activities will occur and thus what the magnitude of the environmental impacts will be, the DFEIS fails to present a meaningful analysis of environmental impacts as mandated by NEPA. This document merely proposes blanket approval for 385 wells to be drilled in the absence of a credible environmental impacts analysis. Thus, this EIS serves no purpose, and is not needed for oil and gas development to continue in the area, the DFEIS has no legitimate Purpose and Need and should be abandoned before additional taxpayer dollars are wasted on this boondoggle. 8c

Visual Resources Do Not Receive Adequate Protection Under the Proposed Action

The BLM acknowledges, "Both short-term and long-term impacts to visual resources could be possible where patterns of area, line, form, color, and texture in the characteristic landscape could be contrasted by drilling equipment, production facilities, and/or construction related damage (e.g., roads, drill sites, pipelines) to vegetation, topography, or other visible site features." DFEIS at 4-94. We agree with this statement; for the sake of simplicity, we will categorize these areas as "sensitive visual resource areas." Where is the spatial presentation of the occurrence of spatial 9 visual areas? And how does the specific pattern of development (i.e., particular siting of roads, wells, pipelines) relate to these sensitive visual resources? How can the pattern of development be reconfigured to avoid impacts to sensitive visual resources? These questions deserve unequivocal answers in the FEIS. The BLM further notes, 9a

> "Views of large, relatively undisturbed patches of the characteristic Wyoming Red Desert landscape are becoming less common. These conditions would increase the likelihood that all viewers, particularly back country [sic] recreationists, would be dissatisfied with the visual component of their experience. " 9

DFEIS at 5-25. Finally, the BLM should identify important viewsheds from the standpoint of public recreation and solitude, with special provisions that guarantee that the viewsheds in popular recreation areas like Powder Rim and Adobe Town/MVMA do not suffer from degradation as a result of the Desolation Flats project. 9b

The only provisions to protect visual resources in the Preferred Alternative are to screen developments from roads using topographic features and to paint the structures a flat color that blends in with the surrounding landscape. DFEIS at 2-40. There are no provisions for avoiding locales of high visual importance, such as Powder/Cherokee Rims, Willow Creek Rim, Willow Creek badlands, Prehistoric Rim, the canyon of Sand Creek, Red Creek Rim, or the Flattop Mountain massif. These areas should be managed for No Surface Occupancy through Conditions of Approval (COAs) attached at the APD stage. The BLM should be prepared to compensate Operators for any "takings" which may accrue from the post-hoc attachment of the COAs, which should be mandated through the DFEIS. 9c

Wilderness Resources are Inadequately Protected Under All Alternatives

The BLM chose not to consider protecting the proposed wilderness set for in the *Citizens' Wilderness Inventory of Adobe Town* and the *Western Heritage Alternative for the Great Divide RMP* within the DFEIS on the basis that it would be more appropriate to address within the BLM's land use plan review process. Further it was determined that it would not be appropriate to delay the EIS for this project while such land use review is undertaken. 10a This sequence of events is such that when (or if) land use review is finally undertaken (assuming the Desolation Flats Project commences), potential wilderness characteristics will be destroyed in the interim and the Citizens' proposal will become moot. This is an unacceptable outcome. Therefore, protection of lands encompassed in the Citizen's Proposal must be considered as part of the DEIS for Desolation Flats. We incorporate the *Citizens' Wilderness Inventory of Adobe Town* and the *Western Heritage Alternative for the Great Divide RMP* into these comments by reference. 10b

10 The Adobe Town proposed wilderness is the crown jewel of Wyoming's high desert wilderness, and about 50,000 acres outside the WSA but which possess wilderness qualities. The citizens' proposed for wilderness includes all of the Adobe Town Wilderness Study Area, plus additional lands of wilderness quality in The Haystacks, along Willow Creek and the Willow Creek Rim, and south of the WSA to the Powder Rim and just beyond it. All of these areas possess the full complement of required characteristics for wilderness in abundance: outstanding opportunities for both solitude *and* primitive and unconfined recreation, wilderness-quality naturalness, size (at over 180,000 acres, the citizens proposed Adobe Town wilderness is well above the 5,000-acre minimum), and in addition has outstanding supplemental values such as abundant wildlife, wild horse herds, unique geology, and abundant archaeological and paleontological resources. The Adobe Town area has long attracted attention for its mesmerizing landscapes of badlands and high rims. In 1869, General A.A. Humphreys led a Geological Exploration of the Fortieth Parallel. In his report, General Humphreys describes the Adobe Town area as follows:

> "This escarpment is the most remarkable example of the so-called bad-land erosion within the limits of the Fortieth Parallel Exploration...Along the walls of these ravines the same picturesque architectural forms occur, so that a view of the whole front of the escarpment, with its salient and reentrant angles, reminds one of the ruins of a fortified city. Enormous masses project from the main wall, the stratification-lines of creamy, gray, and green sands and marls are traced across their nearly vertical fronts like courses of immense masonry, and every face is scored by innumerable narrow, sharp cuts, which are worn into the soft material from top to bottom of the cliff, offering narrow galleries which give access for a considerable distance into this labyrinth of natural fortresses. At a little distance, these sharp incisions seem like the spaces between series of pillars, and the whole aspect of the region is that of a line of Egyptian structures. Among the most interesting bodies are those of the detached outliers, points of spurs, or isolated hills, which are mere relics of the beds that formerly covered the whole valley. These blocks, often reaching 100 feet in height, rise out of the smooth surface of a level plain of clay, and are sculptured into the most remarkable forms, surmounted by domes and ornamented by many buttresses and jutting pinnacles. But perhaps the most astonishing single monument here is the isolated column shown in the frontispiece of this volume. It stands upon a plain of gray earth, which supports a scant growth of desert sage, and rises to a height of fully sixty feet. It could hardly be a more perfect specimen of an isolated monumental form if sculptured by the hand of man." Report of the Geological Exploration of the Fortieth Parallel, 1869, p.397-398.

The BLM recognized the unique and significant natural qualities present in the Adobe Town Area 10 when it designated the area as an "Interim Critical Management Area" under the Management Framework Plans drafted prior to 1973. It has also been managed as the Adobe Town Wild Horse Management Area. In its URA Step III (Present Situation) document (hereinafter referred to as URA), BLM concluded: "Quality, we feel, is a function of the combination of interrlated (sic) values that the area exhibits and the uniqueness of that combination. In that sense the area is very high quality." URA at p.15.

The outstanding natural qualities of this area echo through BLM's own documents from its Wilderness Intensive Inventory of the area. In the early 1970s, BLM recognized that "[t]hese highly significant wildlife values, coupled with open space and a sparse human population, figure prominently in the way of life enjoyed by the residents" (Wyoming Land Use Decisions, Overland Area, at p.4). BLM officials played up the unique and outstanding natural values of the area as follows. "Many of the spires take on strange life-like forms - stone sentinals (sic) frozen in time standing guard over their silent desert domain. Walking amidst groups of these strange spires gives one the eerie feeling of being watched - by beings who have witnessed the evolution of Adobe Town for millennia." (URA at p.4). The document went on to state, "Contrast between colors, sunlight and shadows, and landforms is increased creating enormous vistas..." (URA at p.5). "Although similar landforms are found elsewhere in southern Wyoming, these are perhaps the most outstanding example, a factor which contributes to the uniqueness of the area." (URA at p.9). Adobe Town has also received recent accolades in the popular literature. In the recently released book *Wild Wyoming*, the author describes Adobe Town as "a fantastic landscape of spires, balanced rocks, keyoles, and cliffs" (at p. 321) and "a landscape worthy of National Park status" (at p.323). This book goes on to assert that "[w]hen the BLM developed its wilderness recommendations, natural gas potential was given priority over public recreation and environmental quality" (at p. 325). BLM has the responsibility to rectify the tainted nature of its original Wilderness Intensive Inventory by setting aside *all* lands in the Adobe Town area that possess wilderness characteristics until the U.S. Congress can act on them.

Proposed Expansions
The citizens' intensive inventory of routes and impacts within the greater Adobe Town area reveals that many of the vehicle routes that form the boundaries of Adobe Town (and hence the basis for excluding adjacent roadless lands) either were never "roads" that significantly impact the naturalness of the landscape or have become so reclaimed through the passage of time and the processes of natural degradation that they no longer qualify as roads or significant impacts. In these cases, we inventoried surrounding undeveloped lands for vehicle routes and human impacts to determine which (if any) areas met the wilderness criteria and warranted inclusion in an expanded Adobe Town WSA. We found a number of large areas which meet every criteria for wilderness designation and yet were excluded from Adobe Town WSA. As it now stands, many of the scenic overlooks within Adobe Town WSA have within their viewshed lands which are unprotected from industrial development. An expansion of the WSA to include undeveloped lands that possess wilderness quality would thus enhance and protect the wilderness quality of lands within the current WSA while addressing the problem of the exclusion of wilderness-quality lands nearby from interim protection. Conservation groups, including many of the undersined organiziations, have formally requested that BLM reinventory these areas, and extend WSA protection to those areas that qualify for wilderness as outlined in the BLM Wilderness Inventory Study Procedures. In the BLM's re-inventory, the agency agreed with the citizens' proposal on the presence of potential wilderness on about 40,000 acres of the citizens' proposal. 10

The Haystacks
The Haystacks are a broad arc of deeply dissected badlands that extend northeast from the Adobe Town Rim. According to local tradition, it was in the Haystacks that Butch Cassidy and his gang hid their fresh horses, which helped them elude their pursuers following the Tipton train robbery. This lofty chain of ridges and badlands is home to a juniper woodland whose isolated nature within the surrounding sea of sagebrush lends it great ecological importance. In the Park Service's Inventory of Significant Geological Areas in the Wyoming Basin Natural Region (published in 1973), the authors describe The Haystacks as follows: "A dominant feature of the landscape in the northern part of the area is Haystack Mountain. It is arcuate in shape and 10 miles long. On the north end, badland slopes of variegated sediments rise precipitously 500 feet above the adjacent plains." at p.187-188. Today, visitors to the Haystacks can enjoy the same wild, remote, and pristine character that Cassidy found here in the 1800s. The unit is separated from Adobe Town WSA by the Manuel Gap "Road," a rugged jeep trail. During the Wilderness Intensive Inventory, BLM officials came to the rather amazing conclusion that it was constructed, maintained, and regularly used, qualifying as a "road" and fit for exclusion from wilderness. Our inventory provides voluminous evidence that much of the route was never constructed, those parts which received blading have since deteriorated, use is very light and sporadic (not regular), and maintenance has not been performed for such a long time that substantial portions of the route are no longer passable to vehicles of any kind. Hence, this route meets none of the characteristics of a "road" and must be considered a "way," and as such it does not present an intrusion of significant magnitude to warrant its exclusion from wilderness.

Of the 50,000 acres of wilderness-quality land in this area, BLM in its original Wilderness Intensive Inventory considered only 8,090 acres of this unit, the portion outside the "Checkerboard" of public and private land ownership. In its analysis, BLM officials noted that the limited area inventoried "..contains enough acres to meet the size criterion but field investigations indicate that this portion of the unit fails to satisfy other basic wilderness criteria. Opportunities to experience solitude are not outstanding and the opportunity for a primitive and unconfined type of recreation is limited." Staff Specialist Synopsis, Unit No. WY-030-401, WY-040-408, 1/16/80, p.7. But when the entire unit is considered as a whole, *both* the opportunity for solitude *and* outstanding opportunities for primitive and unconfined recreation are available throughout this unit, particularly within the northeastern extension of the Adobe Town Rim and within the Haystacks themselves. BLM conceded that the subunit that it considered possessed the full measure of naturalness required for wilderness, noting, "[t]his portion is bisected by a way [Route AT-89B]..Its presence alone is insufficient to compromise apparent naturalness" (Ibid. at p.7). But the report recommends dropping the area from wilderness consideration because it "contained intrusions and otherwise did not meet wilderness criteria" (Id. at p.4).

The BLM's 2002 inventory agreed that the 8,090 acres outside the checkerboard, but did not consider portions of the Haystacks which fall within the "checkerboard" ownership pattern due to the difficulty of managing checkerboard lands, with their private inholdings, as wilderness. And yet these lands possess wilderness qualities equal to those in the existing WSA, the difference being in land ownership pattern, which is invisible on the ground. Thus, the wilderness qualities 10 of this area, regardless of the practicality of their being managed as wilderness in the absence of a land swap, are a multiple-use resource for which the BLM should be managing and which are valuable to the public regardless of land ownership pattern. We request that BLM grant all public lands within The Haystacks portion of the citizens' wilderness inventory be granted WSA status and be withdrawn from all drilling, road, or pipeline construction as a Condition of Approval for 10c APDs under the Desolation Flats project until such time as Congress can reach a final decision to either grant it wilderness status or release it from wilderness consideration. In the interim, BLM should actively pursue a program of land swaps in order to free up the potential wilderness from 10d private inholdings.

Willow Creek Rim
This unit encompasses a sloping table land between the WSA and the Willow Creek Rim, an area of 20,000 acres that BLM inventoried and then excluded from WSA protection in 1980. It also includes wilderness-quality lands in the badlands of Willow Creek itself, which lie immediately to the east of the rim. The Willow Creek Rim is a tall, vertical scarp that bisects the area from north to south, affording spectacular views of the surrounding country. At its foot lies a maze of badlands that invite exploration on foot or horseback. The spectacular scenery alone is sufficient to lend the area outstanding opportunities for primitive and unconfined recreation. In its inventory of the area, BLM excluded the tract including Willow Creek Rim, citing a lack of vegetative or topographic screening and land features that were "commonplace" (Staff Specialist Synopsis at p.8). The report noted that "[s]everal ways are also found in this portion of the unit...they receive no maintenance and most are deteriorated" (Ibid. at p.8). This report further noted a pipeline right-of-way that had been approved but not yet constructed and a bladed road along the Willow Creek Rim that received substantial use. The BLM concluded that the Willow Creek Rim unit "contained intrusions and otherwise did not meet wilderness criteria" (Id. at p.4) and excluded it from further wilderness consideration.

Today, there is no visible evidence that the pipeline was ever laid, and the bladed "road" has been mechanically obliterated and reseeded in the intervening years. A light amount of use still occurs on a two-track way that follows the revegetation strip of the old road, but this route was *created and maintained solely by the passage of vehicles* and thus must be considered a "way." The BLM's 2002 reinventory of this area classified this route as a "road," which begs the question: Once an oil and gas road is reclaimed to the BLM's satisfaction following a project like Desolation Flats, how can it still be considered a 'road?' 10e An improved gravel road has also been built atop one of the primitive "ways" to access a drilling site east of Willow Creek Rim. Like the roads found within Adobe Town WSA, this road is a "temporary intrusion" that will need to be fully reclaimed when the well site is abandoned. For the purposes of this report, this road has been excluded from the proposed wilderness via a "cherry-stem;" we expect that the road be obliterated upon abandonment of the well site, at which time the route will be suitable for inclusion within wilderness. The roads and wells of the Desolation Flats projects should be kept out of this portion of the proposed wilderness as well. 10f

Powder Rim

The Powder Rim is a broad swell of high country that rises at the south end of the Washakie Basin. It is robed in a mix of juniper woodland and sagebrush meadows, and provides nesting habitat for sage grouse. The northern side of the rim slopes down into the Skull Creek basin, where it is dissected into clay badlands. This area apparently escaped the Wilderness Intensive Inventory entirely, even though it possesses all of the required attributes. 10 This area provides perhaps the finest opportunities for primitive and unconfined recreation in a juniper woodland setting available in Wyoming. It is separated from the Adobe Town WSA by an old jeep trail that received so little use that it has been completely obliterated by the forces of natural degradation over most of its length. Several jeep trails within this area have been improved by bulldozer blading, an impact that will heal over the course of time once these routes are abandoned. There is one reservoir within the area, which is breached and no longer functional. The BLM agreed that this area indeed possesses the characteristics of wilderness, and thus Conditions of Approval should be attached to all APDs under the Desolation Flats project protecting this area from surface disturbance. 10g

Flaws in the DFEIS

The BLM claims that for Wilderness, there is "None present" in the DFPA, and therefore this issue is not addressed in the text of the EIS. See Table 3-1, DFEIS at 3-1. This would be true if the BLM were to mean that Congressionally designated wilderness is absent from the planning area, and yet public lands that the BLM itself has deemed to be of wilderness quality lie within the DFPA. FLPMA requires that the BLM manage its resources, including wilderness-quality lands (both Congressionally-designated and otherwise); the Desolation Flats Draft EIS attempts to duck this requirement, which leaves the document legally deficient. 10h

The DFEIS provides, "If proposed development activities were found to impair wilderness values, the application would be denied until completion of the Great Divide RMP revision." DFEIS at 2-43. We appreciate the fact that BLM will defer approval of any project within the portion of the citizens' proposal which the BLM has found to contain wilderness qualities. In addition, the BLM should extend the same interim protections to other portions of the citizens' proposal in order to maintain a full range of alternatives in the Great Divide RMP revision. 10i Furthermore, the DFEIS seems to imply that applications would be approved following the ROD issuance on the revised Great Divide RMP regardless of outcome. The wording should be altered to indicate that applications may be denied indefinitely or altered to conform to the new Great Divide RMP. 10j

The BLM itself recognizes the unique and irreplaceable wilderness resources found in Adobe Town: "There are no areas in the region with the isolation and solitude characteristics of Adobe Town/Monument Valley..." DFEIS at 4-91. The BLM should draw up and mandate an alternative that protects these irreplaceable qualities over the long term.

The DFEIS fails short of the NEPA mandate to evaluate a range of reasonable alternatives, because not a single alternative put forward by the BLM would protect the wilderness qualities and solitude found in Adobe Town from significant impacts. All alternatives entail "Potential Significant Impacts" to recreation and wilderness resources. DFEIS at 2-47. Why is there no alternative that would not entail significant impacts to wilderness and recreation analyzed in the DFEIS? This marks a failure by the BLM to analyze an adequate range of reasonable alternatives, because complete protection for wilderness resources is certainly a reasonable alternative. 10k

In the Proposed Action, the BLM makes the following analysis regarding Adobe Town Wilderness Study area, the crown jewel of Wyoming's high desert wilderness: "Noise, fugitive dust, and the industrial character of drilling and production would adversely impact the pristine WSA landscape diminishing the area's attributes of solitude and isolation sought by WSA recreationists. These activities would likely produce both short term and long term impacts to recreation resources in the adjacent WSA. Mitigation of noise, dust, and visual impacts via site selection or screening would be difficult given the character of the landscape along the interface between the WSA and the DFPA." DFEIS at 4-92. 10 We heartily agree with this assessment. Alternative A would make these problems even worse, and the BLM concludes that this alternative's impacts to the WSA would be even "more adverse." DFEIS at 4-92. Finally, even the "No Action" alternative would have impacts to the WSA that would be "similar to those described for the Proposed Action but of lesser magnitude." DFEIS at 4-93. In short, the BLM is considering NO ALTERNATIVE which would not adversely impact the wilderness qualities of the adjacent Adobe Town WSA, let alone the citizens' proposed wilderness that lies within the DFPA, in its range of alternatives. This failure constitutes an egregious violation of NEPA's requirement to analyze a range of reasonable alternatives. 10l

The Powder Rim Proposed ACEC and Associated Winter Ranges Must Receive Full Protection from Surface Disturbances

The Powder Rim is a large and important juniper scrub woodland, which also boasts its own desert elk herd and seven species of rare native plants. According to Pavlacky (2000), "Since juniper woodlands make up a mere 2% of the land area in Wyoming, the juniper woodland bird community is unique and has substantial conservation value" (p.171). He added, "Because very few large woodland patches > 19 km^2 are present on the landscape, woodlands of this size have high conservation value" (p. 181). The Powder Rim has one of only two juniper woodlands in Wyoming that exceeds this size. Juniper woodlands are the third most prevalent vegetation type in the DFPA, covering 6.7% of the project area along the northern part of the Powder Rim. DFEIS at 3-47. 11

Seig (1991) found higher bird densities and greater species richness in juniper woodlands than in neighboring grasslands in the Badlands of South Dakota, and pointed out the importance of juniper in providing thermal cover and forage. In the Great Divide planning area, juniper woodlands along the Powder Rim and elsewhere are likely to perform a similar ecological role. The importance of junipers as a nesting substrate for ferruginous hawks has been documented by a number of different researchers (e.g., Howard and Wolfe 1976, Powers 1976, Smith and Murphy 1978, Smith and Murphy 1982, Woffinden and Murphy 1989, Bechard et al. 1990).

Although ferruginous hawk nesting in junipers has not yet been documented for the Powder Rim, this may be an indicator of little survey effort for this species along the Powder Rim rather than a lack of ferruginous hawk nesting activity in this habitat type.

Fitton and Scott (1984) listed 10 species virtually confined to Utah juniper communities in Wyoming: gray flycatcher, ash-throated flycatcher, western scrub jay, plain titmouse, bushtit, Bewick's wren, blue-gray gnatcatcher, gray vireo, black-throated gray warbler, and Scott's oriole. Fitton (1989) described these juniper obligates as follows. The ash-throated flycatcher is a secondary cavity nester that utilizes steeper slopes with old-growth juniper. The plain titmouse requires old growth juniper for cavity nesting and foraging. Gray vireos inhabit mature stands of juniper with moderate canopy closure and well-developed shrub understory or patches of shrubs in clearings. The Scott's oriole requires mature juniper with moderate to sparse canopy cover, often foraging on smaller junipers or deciduous shrubs. Fitton reported that the ash-throated flycatcher and scrub jay each declined 66-67% in its juniper range during the 1970s and 1980s. Bushtits and western scrub jays are particularly sensitive to human disturbance, and abandon their nests easily. Fitton recommended the ash-throated flycatcher, scrub jay, plain titmouse, bushtit, gray vireo, and Scott's oriole as "Species in need of special management in Wyoming." The ash-throated flycatcher, western scrub jay, and juniper titmouse were granted Special Concern III status by the Wyoming Game and Fish Department (Pavlacky 2000). According to the Wyoming Natural Diversity Database, four of the sagebrush obligates found along Powder Rim have been granted NSS3 status by WGFD: the western scrub jay, juniper titmouse, bushtit, and Scott's oriole. Species with this status receive a mitigation category of "High," for which WGFD recommends no net loss of habitat function through enhancement of degraded habitat when a habitat disturbing project is proposed. 11

Nine of Wyoming's ten juniper obligate birds (all except the gray vireo) have nest records along the Powder Rim, and several lesser sites farther east host a lesser number of these species (Fitton and Scott 1984). In the DFPA, Scott's orioles have been recorded from both Powder Rim and from the vicinity of Anthill Reservoir, and Wyoming's first nesting record for this species came from the latter site (Findholt and Fitton 1983). Findholt (1983) recorded blue-gray gnatcatcher nesting on the Powder Rim, and also noted that Wyoming's original nest record for the plain titmouse came from the Powder Rim as well.

Pavlacky (2000) noted that species typically classified as sagebrush obligates also are found in association with juniper woodlands: In this study, Brewer's sparrows were associated with small, early-succession juniper patches, and the green-tailed towhee showed an affinity for larger juniper patches, but preferred open, shrubby stands. Mourning dove, mountain bluebird, plumbeous vireo, and juniper titmouse also occupy dense, mature woodlands with little shrub cover, high grass cover, and little juniper regeneration (Pavlacky 2000). During the course of BCA field work, we also noted an abundance of mourning doves and raptors in the juniper woodlands along the Powder Rim. These juniper woodlands, and the juniper obligate songbirds that depend on them, will receive adequate protection if the BLM chooses to place big game crucial ranges and the Powder Rim proposed ACEC off-limits to disturbance for the purposes of this project. We strongly urge the BLM to adopt this course of action. 11a

The Monument Valley Management Area Should be Protected from Drilling 12

The Monument Valley Management Area (MVMA) was identified as a possible Area of Critical Environmental Concern (ACEC) under the Green River RMP, with the stipulation that conferring ACEC status would be evaluated at a later time. The Desolation Flats project would allow 12a

full-field development at 640-acre spacing in the MVMA: "The Operators anticipate that…the remaining 13 wells [would be] located within the Monument Valley Management Area (MVMA), RSFO administrative area." DFEIS at 2-1. In addition, 13 wells permitted under the Mulligan Draw Project also fall within the MVMA. Ibid. This would mean that a total of 26 wells would be drilled in this sensitive area, damaging this area's eligibility for ACEC status and possibly precluding ACEC designation. The sensitive nature of the landscapes, viewsheds, primitive qualities, and paleontological resources in this area dictate that oil and gas development should not occur at all in this area. 12a

The Proposed Action would allow 640-acre well spacing within the MVMA, a full-field development scenario. DFEIS at 4-91. The BLM further notes, "Hunter options to relocate to other hunting areas within the region are becoming increasingly constrained. The extent of oil and gas development in the region makes it difficult to find hunting opportunities in more natural settings where isolation and solitude persist. The Adobe Town WSA and MVMA are the largest and closest relocation possibilities with these characteristics. However, 23 square miles of the MVMA, 14 of which are on BLM administered property, are also included in the DFPA. The MVMA and WSA are generally higher in elevation than the DFPA. Hunters (or other recreationists) looking south and east could view oil and gas facilities and activities both within the MVMA and east of the WSA. The level of disturbance to the visual resource and oil field activities could reduce the number of users. There are no areas in the region with the isolation and solitude characteristics of Adobe Town/Monument Valley to which hunters could relocate." DFEIS at 4-91. 12b

12

The MVMA is designated as VRM Class 2, and by BLM's own admission, proposed drilling in the MVMA under the Proposed Action would exceed the level of contrast permitted in VRM Class 2, and thus impacts would be considered significant. DFEIS at 4-95. Specifically:

> "Drilling in the 14 BLM administered sections within the MVMA would produce contrasts in line, form, color, and texture as previously described. These contrasts would likely persist although at reduced levels after drilling. The impacts in these sections would be considered significant if site disturbances were not reclaimed to VRM levels necessary for the 14 square miles to be considered for inclusion in a potential future ACEC. They could eliminate the opportunity for future generations of recreationists to experience the relatively undisturbed character of visual resources within these 14 sections."

DFEIS at 4-95. A visibility analysis conducted in the MVMA at BLM's request further revealed, "The generally open nature of the site and its slope toward the road would make it difficult to mitigate visual impacts." DFEIS at 4-96. This would violate the Acceptable Plan Criteria for VRM Class 2 areas, which state, "Pad locations should be hidden by topographical features," and "Screen locations where possible." DFEIS at A-2. BLM also notes, "Impacts to recreation resources resulting from 13 wells in the MVMA would be considered significant because adjacent Adobe Town and MVMA are two of the few remaining areas in the region with landscape characteristics that provide isolation and solitude." DFEIS at 4-92. Thus, impacts to visual resources in this VRM Class 2 area violate Visual Resource Management directives for the MVMA. 12c

This aspect of the project fails to comply with the Green River RMP, which requires management actions in VRM Class 2 areas to "blend into and retain the existing character of the natural landscape." Green River RMP at 21. Note that this criterion is much simpler than the added requirements imposed by the creation of the MVMA: While the eligibility of the MVMA for

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ACEC status after full-field development might be debatable, the simple fact that the "existing character of the natural landscape" would be destroyed by development is not. Full-field development at 640-acre spacing, as proposed in the Desolation Flats EIS, would destroy the isolation and solitude present in the area (by BLM's own admission, see above), which are so important to the character of the MVMA, would be destroyed. Thus, the portion of the Desolation Flats EIS which allows full-field development in the MVMA violates the Green River RMP, and as such, constitutes a violation of FLPMA's requirement that all project-level documents conform to the Resource Management Plan. 12c 12

The BLM notes that 9 sections within the MVMA that are covered by the Desolation Flats project are currently in private ownership, and the BLM cannot control the impacts to these parcels. DFEIS at 4-95. While this statement is largely true, it is also true that this checkerboard ownership pattern does nothing to abrogate the agency's responsibility to maintain the MVMA to VRM Class 2 standards. The fact of private inholdings is therefore irrelevant to the protective measures required under the Green River RMP. 12d

The BLM also notes that one well per section was permitted in the MVMA under the Mulligan Draw project, and attempts to use this honest mistake (at best) or intentional violation of federal law (at worst) as a rationale to extend unacceptable visual impacts into other parts of the MVMA. DFEIS at 4-95. While this breach of law may have gone unpunished during the Mulligan Draw project, the agency can rest assured that it will not be tolerated for the Desolation Flats project.

It is also important to note that impacts to visual resources would equally high under the "No Action" alternative as the Proposed Action, and even higher in Alternative A. DFEIS at 4-96. Thus, in its entire range of alternatives for the Desolation Flats project the BLM has three alternatives that would create significant impacts to the visual resources of the MVMA, and no alternatives that do not create such impacts (which also violate the Green River RMP and thus FLPMA). Thus, the Desolation Flats DEIS not only fails to rigorously explore and objectively evaluate a range of reasonable alternatives, but it also fails to explore and evaluate even a single legal alternative. 12e

WILDLIFE

The conversion of significant portions the Desolation Flats project area into a full-field development for natural gas with 160- to 640-acre well spacing and the accompanying maze of roads, pipelines, and wellpads will have major impacts on local wildlife populations. "The principal wildlife impacts likely to be associated with the Proposed Action or alternatives include: (1) a direct loss of certain wildlife habitat, (2) the displacement of certain wildlife species, (3) an increase in the potential for collisions between wildlife and motor vehicles, and (4) and increase in the potential for illegal kill and harassment of wildlife." DFEIS at 4-56. The magnitude of each of these impacts will depend largely on the siting of roads, wells, and pipelines, information which is not presented or contemplated in the DFEIS. Will major trunk roads run across big game migration routes, increasing roadkill? Will wells, which must be serviced year-round, be sited on crucial winter ranges or within three miles of sage grouse leks, driving sensitive wildlife away from critically important habitats? 13

WGFD (1998) has set forth recommendations for allowing habitat-disturbing activities and mitigation for these activities if allowed. Federal Candidate Species and Native Species Status 1 and 2 receive a mitigation category of "Vital," for which habitat directly limits populations and restoration may be impossible; habitat function must be maintained if habitat modification is allowed to occur. In the DFPA, species in this category likely to be impacted by the project include mountain plover, bald eagle, Townsend's big-eared bat, roundtail chub, bluehead sucker, and flannelmouth sucker. Habitats such as Crucial Winter and Crucial Winter Relief Ranges also receive a mitigation category of "Vital," regardless of whether or not the crucial ranges of two or more species overlap.

Native Species Status 3 receive a mitigation category of "High," for which WGFD recommend no net loss of habitat function through enhancement of degraded habitat when a habitat disturbing project is proposed. In the DFPA, species in this category likely to be impacted by the project include the merlin, peregrine falcon, long-billed curlew, western scrub-jay, juniper titmouse, bushtit, Scott's oriole, dwarf shrew, white-tailed prairie dog, Great Basin pocket mouse, silky pocket mouse, and swift fox. Big game winter-yearlong ranges and parturition areas also fall under the "High" reclamation category, demanding no net loss of habitat function. Furthermore, for Endangered or Threatened Species such as the razorback sucker, bonytail, Colorado pikeminnow, humpback chub, and black-footed ferret, WGFD recommends exclusion of any habitat impacting activity. For these species, "The Commission recognizes that some wildlife or wildlife habitats are so rare, complex and/or fragile that mitigation options are not available. Total exclusion of adverse impacts is all that will ensure preservation of these irreplaceable habitats" (Ibid., p. 4). We concur wholeheartedly, and point out that FLPMA carries a legal requirement for the BLM to manage its lands in accord with state directives such as the WGFD Mitigation Policy. 13

The DFEIS provides, "If development occurs in areas of overlapping wildlife resource concerns, mitigation measures for each individual resource would be implemented." DFEIS at 4-56. This distinction could not possibly be more arbitrary and capricious, because the converse would be that if an area is of wildlife resource concern for only one species, then mitigation measures will not be implemented. Is antelope crucial winter range less important to antelope when it does not overlap with a sage grouse lek or prairie dog colony? Is a mountain plover nesting concentration area less important to the survival of that species when it does not occur in an elk winter range? Mitigation measures should be applied to every acre of sensitive wildlife habitats regardless of whether it also happens to be a crucial habitat for a second or third species. By ocular estimate, half of the planning area appears to be in an area of wildlife resource concern for only one species, with not overlaps. *See* map, DFEIS at G-1. The BLM should clarify in the FEIS that wildlife mitigation measures will indeed be implemented on every acre of sensitive wildlife habitat, not just in areas where sensitive habitats for two different species overlap. 13a 13b 13c

For mule deer, pronghorns, and elk, the BLM asserts that "[s]ignificant impacts in these areas of overlapping resources are not expected if the mitigation measures for each of these individual resources are implemented." See DFEIS at 4-61, 4-60, and 4-62. Obviously, if those areas that are not overlapping and yet are of high wildlife concern for one species are not granted mitigation measures, then significant impacts would implicitly be expected. These impacts constitute unnecessary and undue degradation in light of the availability of mitigation measures of nominal inconvenience to the Operators. 13d

For wildlife, the Impact Significance Criteria included:

- Whether or not an officially designated crucial wildlife habitat was eliminated, sustained a permanent reduction in size, or was otherwise rendered unsuitable.
- Whether or not any effect, direct or indirect, results in a long-term decline in recruitment and/or survival of a wildlife population.

- Disruption of greater sage-grouse, or raptor breeding or nesting activities to the extent that reproductive success is threatened or damaged.

DFEIS at 4-57. All three of these Impact Significance Criteria require that a spatially explicit layout of wells, roads, and pipelines be presented as a prerequisite to any analysis of impact significance. 13

13e Seasonal stipulations for surface disturbance are proposed for important big game winter habitat, sage grouse and sharp-tail leks and crucial winter relief range, and raptor nests. DFEIS at B-1, B-2. These seasonal stipulations are insufficient in and of themselves, as the do not prevent ropads and wells from being sited in sensitive habitats when the animals are not present, thereby degrading habitat quality during the crucial season. 13f But in addition to this important shortcoming, seasonal stipulations are essentially meaningless because waivers are almost always approved on request. For all wildlife species, waivers to seasonal protections under the Desolation Flats project would be available at the Operator's request and the approval of the Authorizing Officer. DFEIS at B-1, B-2. The BLM's pathetic record of waiving these seasonal restrictions is a dismal proof that they are essentially voluntary and meaningless: Last winter, the Pinedale Field Office granted 38 of 42 exceptions (over 90%), Rock Springs Field Office granted 9 of 11 exceptions (82%), and the Rawlins Field Office granted 12 of 16 exceptions (75%). If the BLM is going to grant most exceptions to these seasonal stipulations, then major impacts to wildlife on sensitive ranges will continue to occur, and the mitigative value of these seasonal stipulations is voided. For these reasons, prohibitions on surface disturbance, rather than seasonal stipulations, are the minimum protections needed on sensitive wildlife habitats.

13g Oil and gas development is occurring at a breakneck pace all across the Red Desert, and yet the DFEIS completely ignores the cumulative effects of the massive roading, habitat fragmentation. construction, and increased activity on the Red Desert's native wildlife. According to Ingelfinger's (2001) study of sagebrush birds in Wyoming,

> "the cumulative impact of state wide patterns of [oil and gas] development in sagebrush communities could cause substantial habitat fragmentation that impacts the sagebrush avian community negatively" (p.34), and "While the population cousequences of development of one natural gas field may not be important, the development of multiple gas fields simultaneously, accompanied by historic sagebrush management practices, could have important long-term population ramifications. Given the inability of sagebrush obligate passerines to expand their populations quickly…it may take decades for sagebrush obligates to recover following reclamation" (p. 72).

Similar cumulative effects are being felt by mountain plovers, prairie dogs, elk, pronghorns, sage grouse, and burrowing owls, all of which are sensitive to disturbance. Postovit and Postovit (1989) stated, "Although individual energy projects will seldom severely affect raptors over large geographic areas, such developments are often clustered and could thereby affect regional populations" (p. 171). Parrish et al. (1994) echoed these concerns regarding raptors, noting that "even less radical habitat alterations may have a significant impact over a large area – e.g., numerous small/medium alterations in close proximity, such as gas fields" (p. 53). 13h Thus, a credible cumulative impacts analysis is needed on the basis of the ecological needs of wildlife on a regional scale.

In lieu of a Cumulative Impacts Analysis on threatened, endangered, and sensitive wildlife species, the BLM merely excuses itself from this important analysis by stating "However, the application of monitoring (Wildlife Monitoring/Mitigation Plan for this project; Appendix H) and mitigation measures associated with each of the projects within the CIA [Cumulative Impacts Analysis] area is expected to provide adequate protection for threatened, endangered, proposed, and sensitive species from past, present, and potential future actions…Through these efforts, cumulative impacts to special status wildlife species are not expected to be significant." DFEIS at 5-22. 13 13i NEPA does not allow the agency to skip a cumulative impacts analysis on the basis that agency personnel believe (in the absence of any scientific support, we might add) that mitigation measures are adequate to prevent cumulative impacts.

The impacts on wildlife species are wholly dependent on the placement and mitigation measures of development that occurs on sensitive wildlife habitats. And yet for the Proposed Action, the DFEIS states, "Well placement within the DFPA is not known at this time, therefore it was assumed that any section may potentially be developed." DFEIS at 4-57. 13j Thus, it is impossible to quantify or even estimate impacts to any wildlife species, because the agency has no idea to what degree and with what intensity impacts will occur in the crucial habitat for a given wildlife species. Thus, the BLM is completely unable to provide the "hard look" required by NEPA and must go back to the drawing board, presenting a full disclosure of locations of site disturbances and a credible evaluation of subsequent impacts for each wildlife species.

Habitat Fragmentation

Habitat fragmentation occurs whenever there is a change in the spatial continuity of the habitat that affects occupancy, survival or reproduction in a particular species, whether or not a net loss of habitat accompanies the spatial change (Franklin et al. 2002). Oil and gas development, with its sprawl of drilling pads, access roads, and pipelines, is the primary cause of habitat fragmentation in the habitats of the DFPA. The Proposed Action entails a well spacing pattern that will maximize habitat fragmentation over the long term; 14a we urge the BLM to adopt a new Proposed Action that uses directional drilling and well clustering to minimize habitat fragmentation, and thus avoid the unnecessary and undue degradation of lands and resources inherent to the current Proposed Action.

14 In the Proposed Action, "Existing disturbance includes: 126.1 mi of primary roads (611.1 ac); 132.9 mi of secondary roads (322.3 ac); 402 mi of two-track roads (194.5 ac); 82.2 mi pipeline (39.9 ac) and 338.6 areas [sic] of other disturbed areas." DFEIS at 4-33. Operators estimate that each new well will require 1.5 miles of new road construction and 1 mile of new pipeline construction, totaling an estimated 542 miles of new roads and 361 miles of new pipelines. DFEIS at 2-21. This is an unacceptably high total. The cumulative total surface disturbance when project-related surface disturbance is added to existing disturbance would take in 2.8% of the project area acreage. DFEIS at 4-33. Following reclamation of initial disturbance, overall disturbance would be approximately 1.6% of the project area, up from 0.5% currently. Ibid. Furthermore, "The DFPA Operators anticipate that drilling would typically occur at 2 to 4 wells per section where hydrocarbons are encountered." DFEIS at 4-1. 14b This massive habitat fragmentation is largely preventable through clustering many wells per well pads and drilling directionally; habitat fragmentation on the scale proposed in the Desolation Flats project is therefore unnecessary and undue degradation of the lands and resources in the DFPA. The BLM must choose an alternate course of action that does not entail this massive damage to landscapes and habitats.

14c Although the portion of the landscape physically disturbed by roads, wellpads, and pipelines is often a relatively small percentage of the overall landscape, GIS analysis of full-field oil and gas development incorporating quarter-mile buffers to account for habitat degradation due to edge effects indicates that almost 100% of lands within a fully developed gas field are degraded (Weller et al. 2002). In this way, the development of an oil and gas field results in widespread habitat destruction that extends well beyond the acreage of roads and wellpads that are bulldozed in. 14c

The DFEIS notes that dwarf shrews, a BLM Sensitive Species, have been collected in eastern Sweetwater County and are likely present in the DFPA. DFEIS at 4-82. Shrews are very small and are poor dispersers. Roads and well pads may constitute dispersal barriers for these tiny mammals. With this in mind, the BLM must analyze the effects of the intensive fragmentation of sagebrush steppe by roads and wellpads, the effects of this fragmentation on shrew dispersal, the degree to which shrew populations would be split into small metapopulations, and the effects that such population shifts would have on vulnerability to inbreeding, stochastic disturbance events such as adverse weather or disease outbreaks, predation, and ultimately to the overall viability of shrew populations and metapopulations. 14d

Predation is believed to be the major factor in the decline of burrowing owl populations in Canada, and habitat fragmentation also serves to increase predation risk in burrowing owls (James et al. 1997, Hjertaas 1997). The BLM must analyze the increase in predation on burrowing owls for all alternatives and reach conclusions about burrowing owl population dynamics that are supported by science. 14e

Fragmentation of shrubsteppe habitats has a particularly strong negative impact on passerine birds. Knick and Rotenberry (1995) and found that sage sparrows and sage thrashers decreased with decreasing patch size and percent sagebrush cover, and reached the following conclusion:

> "Our results demonstrate that fragmentation of shrubsteppe significantly influenced the presence of shrub-obligate species. Because of restoration difficulties, the disturbance of semiarid shrubsteppe may cause irreversible loss of habitat and significant long-term consequences for the conservation of shrub-obligate birds" (p. 1059).

Ingelfinger (2001) found significant declines in nesting songbirds within 100m of gas field roads, and also found that sage sparrows declined near pipelines. Kerley (1994) found that 67% of songbird species selected for the tallest available sagebrush stands, and nest success was associated with 41% shrub cover, while the two nests in 15% shrub cover were both unsuccessful. Oil and gas development also creates nesting structures for ravens, which are an important nest predator on sagebrush bird species (Ingelfinger 2001). 14

Three species of sagebrush obligate passerines, the sage sparrow, Brewer's sparrow, and sage thrasher, have been documented or are likely to be found in the DFPA (DFEIS at 4-83). For each of the species, BLM argues that sagebrush habitats required by this species are abundant, and the impacts of the project are relatively small in terms of acreage, and therefore the impacts to these species are expected to be minimal. The BLM has failed to conduct sufficient analysis of these impacts to warrant such a conclusion. 14f

Ingelfinger (2001) conducted a study of sagebrush birds in a western Wyoming gas field and found that as gravel roads increased, densities of sagebrush obligate birds, Brewer's sparrows, and sage sparrows declined, while horned larks (a grassland species) increased. According to his findings, "roads associated with natural gas development negatively impact sagebrush obligate passerines. Impacts are greatest along access roads where traffic volume is high" (p. 69), but "bird densities are reduced along roadways regardless of traffic volume" (p.71). Ingelfinger

(2001) found significant declines in nesting songbirds within 100m of gas field roads, and also found that sage sparrows declined near pipelines. Kerley (1994) found that small patches had fewer shrub-nesting species than large patches, and the green-tailed towhee, an interior sagebrush species, was entirely absent from small patches. Remnant patches smaller than 1 ha will not support sagebrush shrub-nesting birds (Kerley 1994). 14

In light of these scientific findings the BLM must take the following steps in order to satisfy NEPA's requirements of a credible scientific analysis and hard look: (1) map the locations of all roads, pipelines, and well sites for the project in relation to the sagebrush steppe habitat found within the DFPA; (2) buffer all surface-disturbing areas with a 100 m buffer and subtract this area from available sagebrush habitat; (3) analyze the size of remaining blocks of sagebrush habitat outside these buffer areas and subtract all blocks smaller than 1 hectare from the available total; (4) present this post-disturbance acreage of sagebrush habitat available to sagebrush-obligate passerines; and (5) then, and only then, analyze the population-levels effects of the Desolation Flats project on sagebrush obligate birds and present these results in the FEIS prior to reaching a decision on the project. 14g

Big Game Winter Ranges and Calving Areas

The DFEIS analyzes appallingly weak mitigation guidelines for crucial winter ranges, and fails even to consider adequate measures to protect crucial winter range. Timing stipulations preventing construction activities would apply to crucial big game winter ranges between November 15 and April 30. DFEIS at 2-38. These stipulations would allow road and facility construction in the heart of crucial winter ranges, as long as it didn't occur during the winter season, and furthermore would allow for waivers that would permit winter construction activities in crucial winter range. Wintering elk, deer, and bighorn sheep are sensitive to disturbances of all kinds. Both snowmobiles and cross-country skiers are known to cause wintering ungulates to flee (Richens and Lavigne 1978, Eckstein et al. 1979, Aune 1981, Freddy et al. 1986). Because flight response may be particularly costly to wintering ungulates (Parker et al. 1984), disturbance on winter ranges should be avoided at all costs. As a result, winter ranges should be closed to all road-building and drilling activity year-round. 15 15a

The BLM claims that each alternative in the DFEIS would result in "NSI [No Significant Impact] w/ mitigation" with regard to big game crucial winter ranges. DFEIS at 2-46. This is a completely unsupported and unsupportable assertion. 15b Does the BLM argue new roads and wellpads in the heart of crucial winter range will have no impact on these ungulates? That increased traffic from snowplows and well maintenance, as well as noise from well operations, will not stress wintering animals or drive them away from optimal winter ranges and onto marginal habitats, where condition and chances for survival for the animals are degraded? 15c The BLM's argument that no significant impacts will accrue from such actions ignores a large and unequivocal body of scientific evidence that contradicts this conclusion. The BLM's failure to take account of this evidence is a violation of NEPA's requirement that each EIS be held to a high standard of scientific integrity. 15d

According to BLM, "Production operations would occur on a year-round basis, occasionally limited by weather, maintenance, workover operations, and ground and site conditions. Production operations would require use and maintenance of access roads within the project area on a year-round basis." DFEIS at 2-24. In addition, ""Project personnel will also be advised to minimize stopping and exiting their vehicles in big game winter habitat while there is snow on the ground," indicating that vehicle traffic will indeed occur in crucial winter ranges during the

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15 winter season. DFEIS at H-19. Furthermore, "Winter maintenance would include blading of snow from the access road as necessary, with the blade kept above the surface." Ibid. These candid assessments of the continuous nature of human activities on oil and gas access roads and wellsites indicate a continuous level of vehicle traffic which would occur within crucial winter range if development were to occur within or nearby this sensitive habitat, and illustrate why oil and gas production facilities and access roads must never be sited on crucial winter ranges. 15e

15f The BLM also has failed to analyze the effects on increased vehicle traffic as well as snow-plowing that occurs on existing roads as a result of the new and increased level of development associated with the 385 new wells. These wells will need to be checked periodically by personnel in vehicles, and the plowing of roads that might otherwise be allowed to drift over constitutes yet another vehicular intrusion into crucial winter ranges, apart from traffic and plowing on newly constructed roads or facilities. NEPA requires that the BLM take a "hard look" at impacts to wildlife, including the impacts of increased traffic and plowing on existing roads, and what this might mean to the survival and subsequent fecundity of elk and other ungulates utilizing crucial winter ranges. This analysis has not been done in the DEIS and must therefore be presented in the FEIS. 15g

Elk
A number of studies have shown that elk avoid open roads (Grover and Thompson 1986, Rowland et al. 2000). Edge and Marcum (1991) found that elk use was reduced within 1.5 km of roads, except where there was topographic cover. (It is important to note that much of the Great Divide planning area has very little topographic variation, and thus provides little topographic cover). Gratson and Whitman (2000) found that hunter success was higher in roadless areas than in heavily roaded areas, and that closing roads increased hunter success rates. On the Black Hills, elk chose their day bedding sites to avoid tertiary roads and even horse trails (Cooper and Millspaugh 1999). Cole et al. (1997) found that reducing open road densities led to smaller elk home ranges, fewer movements, and higher survival rates. Thus, it is important to keep road construction out of crucial ranges to avoid displacing elk to marginal habitats at crucial times of year. 16a

Disturbances associated with oil and gas exploration and development can drive elk away from their preferred calving range. Powell (in press) also found that experimental disturbances in calving habitats led to reduced use of disturbed areas in the Jack Morrow Hills of the northwestern Red Desert, an area of comparable habitat with the DFPA. Powell speculated that in the absence of forest cover, elk would flee in order to put a topographic barrier between themselves and the source of the disturbance. With this in mind, the disturbed area surrounding a road or a gas well would effectively be the entire viewshed visible from that road or structure. According to Powell (in press, p. i), 16

> Disturbance treatments, simulating human activity at a gas/oil well, were conducted on calving ranges during the parturition period. Significantly fewer pellet groups were counted in disturbed areas of calving ranges compared to those areas not disturbed ($p<0.05$). These results support maintaining disturbance-free area for calving elk.

Powell concluded,

> These experiments support observations that suggest elk expend more energy when disturbed by humans and that even short-term, low-level disturbance can result in displacement of elk from traditional calving areas. Inferences about population level effects appear supported in the ungulate literature. Stipulations that restrict entry into calving areas and those stipulations aimed at reducing daily disturbance of elk appear warranted in the JMH study area. (Ibid., p. 43).

We concur with the need to keep all calving areas in the DFPA disturbance-free.

But beyond the temporary effects of construction-related disturbance, the long-term disturbance associated with infrequent but steady traffic along existing roads and wells also drive elk away. According to Powell (in press, p. 23),

> Habitat use patterns of elk in the JMH are also strongly influenced by roads, and areas within 2 km of major roads are used significantly less than expected. This avoidance of roads reduces the amount of habitat effectively available to elk and makes the effective habitat lost much larger than the actual physical "footprint" of a road or structure. 16

A number of studies have shown that elk avoid open roads (Grover and Thompson 1986, Rowland et al. 2000). Edge and Marcum (1991) found that elk use was reduced within 1.5 km of roads, except where there was topographic cover. (It is important to note that much of the Great Divide planning area has very little topographic variation, and thus provides little topographic cover). Gratson and Whitman (2000) found that hunter success was higher in roadless areas than in heavily roaded areas, and that closing roads increased hunter success rates. On the Black Hills, elk chose their day bedding sites to avoid tertiary roads and even horse trails (Cooper and Millspaugh 1999). Cole et al. (1997) found that reducing open road densities led to smaller elk home ranges, fewer movements, and higher survival rates. The maintenance of low road densities in important habitat areas is necessary to maintain healthy elk populations. 16b

Several studies have shown that elk abandon calving and winter ranges in response to oilfield development. In mountainous habitats, the construction of a small number of oil or gas wells has caused elk to abandon substantial portions of their traditional winter range (Johnson and Wollrab 1987, Van Dyke and Klein 1996). Drilling in the mountains of western Wyoming displaced elk from their traditional calving range (Johnson and Lockman 1979, Johnson and Wollrab 1987). The lands in the DFPA are considerably more open, with less cover, and thus elk would be expected to be even more susceptible to disturbance in this area. Powell and Lindzey (2001) found that elk avoid lands within 1.5 kilometers of oilfield roads and well sites in sagebrush habitats of the Red Desert. Migration corridors may in some cases be equally important to large mammals and are susceptible to impacts from oil and gas development (Sawyer et al., In press). Thus, winter range areas should be withdrawn from the surface disturbances associated with oil and gas development. 16c

16d The BLM correctly observes that elk are quite sensitive to human activity and may be displaced from construction areas by 0.75-2 miles. DFEIS at 4-63. The BLM then waves its arms and makes a series of blatantly unsupported, and unsupportable, statements:

> "Only localized, short-term displacement of elk during the development phase of the project is expected to occur in those areas that are designated as elk seasonal ranges....By the time the field is under full production, construction activities will have ceased, and traffic and human activities in general would be greatly

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> reduced. As a result, this impact would be minimal and it is unlikely that elk
> would be significantly displaced under full field development."

DFEIS at 4-63. But it is also true that elk will continue to avoid areas with roads and wells after
the construction period is over by a similar distance (Powell and Lindzey 2001, Powell in press).
This series of statements is so contrary to the established science that it is baffling that the BLM 16e
could have reached a conclusion so out of touch with reality. This egregious analytical error
discredits the BLM's scientific integrity and renders the EIS analysis on impacts to elk winter
range completely worthless. A credible literature review, or even communication with agency
counterparts in Rock Springs, would have revealed that studies on elk and oil and gas
development in western Wyoming have demonstrated that elk avoid areas where roads and wells
are found regardless of whether construction activities are occurring. 16

A number of studies have shown that elk avoid open roads (Grover and Thompson 1986,
Rowland et al. 2000). Edge and Marcum (1991) found that elk use was reduced within 1.5 km of
roads, except where there was topographic cover. (It is important to note that much of the Great
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in heavily roaded areas, and that closing roads increased hunter success rates. On the Black Hills,
elk chose their day bedding sites to avoid tertiary roads and even horse trails (Cooper and
Millspaugh 1999). Cole et al. (1997) found that reducing open road densities led to smaller elk
home ranges, fewer movements, and higher survival rates. The reduction of road densities on the
winter ranges as a whole and the maintenance of low road densities in important habitat areas 16f
would aid in maintaining healthy elk populations.

Mule Deer

The ability of mule deer to forage effectively on winter ranges in a stress-free environment is the
key to maintaining viable populations in this region. Winter mortality has claimed up to 80% of
the adult mule deer population of southeastern Wyoming, and also depresses fawn production
during the following spring (Strickland 1975). On winter ranges, mule deer are easily disturbed 17
by snowmobile traffic and even nonmotorized visitors (Freddy et al. 1996). This can be a critical
factor, because metabolic costs of locomotion in snow can be five times as great as normal
locomotion costs for mule deer (Parker et al. 1984). Thus, due to the sensitivity of mule deer to
disturbance on winter ranges and the crucial nature of winter range performance to maintaining
healthy deer populations, mule deer winter ranges must be with drawn from all road construction 17a
and development, particularly oil and gas development, which would increase the level of human
disturbance on these winter ranges.

Pronghorns

The mitigation measures in the DFEIS are insufficient to protect antelope populations in the
Washakie Basin. Antelope of the Bitter Creek herd, inhabiting the project area, are 41% below
WGFD herd targets. DFEIS at 3-55. This indicates that this population is already stressed and 18a
should not be subjected to additional impacts to habitats, displacement from high-quality habitats
or additional physiological stress. Winter range is critically important to pronghorn populations,
as its availability and quality is likely the strongest determinant of population dynamics. Barrett
(1982) reported that during a severe winter in Alberta, overall pronghorn mortality was 48.5%, 18
with fawns and adult males taking particularly heavy losses. This same study documented that
pregnant female pronghorns resorbed their fetuses when conditions were poor. Deep winter
snows also decrease the survival rate of fawns born the following spring (Cook 1984).
Emergency supplemental feeding in ineffective in promoting pronghorn survival during severe

winter weather (e.g., Julian 1973, Barrett 1982). Thus, it is critically important to be sure that the
winter ranges are maintained in the best possible condition. This means keeping all surface 18b
disturbances off of pronghorn crucial winter range to avoid disturbance and/or displacement of
antelope as a result of vehicle traffic, well noise, or human activity during the crucial winter
season.

Regarding the most environmentally preferable course of action, the BLM makes a grossly
inaccurate statement: "Reducing construction activities and vehicle traffic within pronghorn
crucial winter range from November 15 to April 30, in accordance with BLM stipulations, would
minimize the probability of adverse impacts from displacement during this critical time of year,
and long-term adverse effects are not expected." In fact, mere timing stipulations do not *minimize* 18c
the probability of adverse impacts, and given the ease with which exceptions to these stipulations
are granted, it is highly dubious that these stipulations even *reduce* the probability of adverse
impacts. Nothing less that a prohibition of surface disturbing activities on crucial winter ranges
actually minimizes the probability of adverse impacts.

The BLM states, "The potential for vehicle collisions with pronghorn would increase as a result 18
of increased vehicular traffic associated with the presence of construction crews and would
continue (although at a reduced rate) throughout all phases of well operations." We appreciate the
BLM's candid admission that regular vehicle traffic is an inherent part of gas production
activities beyond the construction phase, a fact that is well-known to all who are familiar with oil
and gas operations but which is seldom acknowledged by the agency. On crucial winter ranges, 18d
such vehicular activity in the midst of crucial winter range would potentially displace antelope
from preferred habitats and/or increase the stress levels and metabolic expenditures for individual
animals, either of which results in an elevated probability of overwinter mortality or reduced
fawn viability the following spring.

In the absence of any evidence, direct or indirect, the BLM asserts, "Disturbance of seasonal
pronghorn ranges within the DFPA is not likely to reduce pronghorn carrying capacity within the 18e
Bitter Creek herd unit." DFEIS at 4-60. This claim is baseless and unsupportable. There are no
scientifically credible studies (published in peer-reviewed journals) that indicate that oil and gas
development on pronghorn winter ranges are without effect on pronghorn populations. There is
no aspect of pronghorn behavioral ecology that would suggest that this species is more tolerant of
industrial disturbance than other ungulates. Given the copious literature that indicates that roads
and human activity tend to drive other ungulate species away from high-quality habitats, it is the
prudent and conservative position to assume that pronghorn behave no differently, until proven
otherwise. N this climate of uncertainty, the BLM has the responsibility to protect pronghorns 18f
from impacts of unknown magnitude, rather than find out later that oil and gas development on
crucial winter ranges does indeed cause a major decline in herd populations.

Ferruginous Hawks and Other Raptors

The ferruginous hawk has been experiencing declines across the continent for the past 30 years, 19
although Wyoming is often viewed as a stronghold for the species. The ferruginous hawk has
been petitioned for listing under the Endangered Species Act in the past, and more recently it has
been identified by the Wyoming Game and Fish Department as a Species of Special Concern 19a
(Oakleaf et al. 1996). As a result, ferruginous hawks are of special concern and deserve the
strongest protection available in the context of this project.

Oil and gas development and the associated human activity can have major impacts on raptor nest success. The primary impact to raptor populations is direct disturbance of raptors on the nest, leading to reductions or loss of viability for eggs or nestlings. Disturbance of nesting raptors may cause nest abandonment, damage to the eggs, subject eggs or nestlings to cooling, overheating, or dehydration leading to mortality, prevent young nestlings from receiving sufficient feedings to remain viable, and cause premature fledging (Parrish et al. 1994). Thus, the BLM should establish adequate nest buffers (a minimum of 1 mile in diameter for all species, with larger 19b buffers for ferruginous hawks) around nest sites, preventing all construction of developments (such as wells and roads) that would lead to future disturbance of nesting raptors through focusing human activities in these areas. Seasonal restrictions are insufficient; a well or road constructed outside the nesting season is still likely to lead to nest abandonment or reductions in 19c recruitment due to disturbance from vehicle traffic that does occur during the nesting period.

Ferruginous hawks are among the most sensitive of all raptor species, and are prone to nest abandonment if disturbed (Parrish et al. 1994). Nest abandonment, egg mortality, parental neglect, and premature fledging are common results of disturbing ferruginous hawk nests (White and Thurow 1985). Smith and Murphy (1978) noted that increased human access is a primary threat to the viability of ferruginous hawk nest success. For their central Utah study, these researchers found that "in all instances of nesting failure where the cause could definitely be determined, humans were at fault" (p. 87). White and Thurow (1985) found that walking disturbance and vehicle use had the greatest effect on ferruginous hawk nest success, while vehicle use had the greatest flushing distance. Instead of becoming habituated, most hawks in this study increased their flushing distances with repeated disturbance (Ibid.). In addition, disturbed nests averaged one less offspring fledged per nest when compared to undisturbed control nests. Oakleaf et al. (1996) pointed out that the cumulative effects of oil and gas development may impact large areas of ferruginous hawk habitat. 19

White and Thurow (1985) recommended quarter-mile nest buffers during years of prey abundance, but noted that sensitivity to disturbance increased when prey were scarce, and recommended that nest buffers be "considerably larger" during years of prey scarcity. Although Olendorff (1993) recommended buffer zones of only ½ mile for ferruginous hawk nests, he recommended much larger buffers during periods of prey scarcity. Because it is impractical to move roads away from nest sites when prey bases decline, the appropriate way to ensure the persistence of ferruginous hawks at traditional nesting sites is to use large buffers within which ground-disturbing activities are prohibited. Cerovski et al. (2001) reviewed the issue of appropriate nest buffers and recommended a 1-mile buffer, kept free from human disturbance. 19d Thus, a minimum of 1-mile buffers prohibiting surface disturbance should apply to ferruginous hawk nest sites as well as all other raptor nest sites.

Raptor nest buffers presented in the DFEIS are completely insufficient. Surface-disturbing activities, such as well, road, and pipeline construction, would be allowed as close as 1,200 feet 19e from active ferruginous hawk nests and 825 feet of the nests of other raptor species, as long as construction activities occur outside the nesting season. DFEIS at H-17. The 0.5-mile to 1-mile buffer zones around active raptor offer only seasonal protections and apply only to construction activities (see DFIES at H-16); vehicle traffic, maintenance, and production activities can and will occur within a quarter mile of active raptor nests during the nesting season, with a strong likelihood of disturbing nesting raptors, causing temporary and/or permanent nest abandonment, 19f and leading to the deaths of eggs and/or nestlings in the process. This is an unacceptable state of affairs, constitutes "unnecessary and undue degradation" to these wildlife populations, and therefore constitutes a violation of FLPMA.

The BLM's provisions to "allow for well placement planning and avoidance of impacts to actively nesting birds," (DFEIS at 4-85), while giving the appearance of strong protection on its face, reveal a possible fatal flaw in what it does not address. It is all well and good to prevent construction near nest sites while the hawks are present, but nests are used traditionally from year to year, and if a road or well site is constructed near a nest during the off-season, that nest site 19g will be rendered non-viable the following year when the hawks return to their nesting territory. In addition, ferruginous hawks use the same nest from year to year and also build alternate nests within the same territory (Smith and Murphy 1978). Thus, historic as well as active nests deserve a strong degree of protection for traffic-related surface disturbances. The BLM must emplace solid, year-round protections that prevent the construction of roads and well-sites, which will 19h inherently receive regular vehicle traffic throughout their productive lifetimes, regardless of nesting seasons, within 1 mile of ferruginous hawk nests, both active and historic.

In addition, mitigation measures in section 4.7.4.1.6 are once again referenced, and yet no such section can be found in the DFEIS. 19i

The Migratory Bird Treaty Act prevents the taking of any migratory birds, their parts, nests, or eggs except as permitted by regulations and does not require intent to be proven. 16 USC § 703. The Bald and Golden Eagle Protection Act prohibits knowingly taking, or taking with wanton disregard for the consequences of an action, any bald or golden eagle or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing. 16 USC § 668. According to the DFEIS, "If nest manipulation or a situation requiring a 'taking' of a raptor nest becomes 19 necessary a special permit will be obtained from the Denver USFWS office..." DFEIS at H-17. Removal or destruction of raptor nests, or causing abandonment of a nest or death of nestlings or eggs could constitute a violation of one or both of the above statutes. According to USFWS policy, permits for nest manipulation, including removal or relocation may, under certain circumstances, be issued for inactive nests only; no permits are issued for an active nest of any migratory bird species. Comments of Mike Long, USFWS, on the Lower Bush Creek CBM Exploratory Project, RSFO. The take of even inactive nests must therefore be done outside the 19j nesting season and with the full involvement of the USFWS.

The overall landscape-scale effects of widespread industrialization threaten the viability of raptor populations through habitat loss and fragmentation. Nest buffers currently in force are unlikely to 19k safeguard the viability of native raptors in the Great Divide; a more conservative approach is needed in order to safeguard raptor viability in this region. White and Thurow (1985) stated: "We would prefer to see ecosystems kept intact (cf. Wagner 1977) rather than divided into isolated islands set aside for nesting raptors, because aspects of general land use other than restricted areas also affect the health of raptor populations" (p. 21). Oil and gas development results in habitat fragmentation and increased levels of human disturbance, impacting raptor species; nesting and foraging habitat loss can be substantial in the case of full-field development (Postovit and Postovit 1989). Even when surface-disturbing activities such as strip mining are located away from golden eagle nest sites, the destruction of important foraging habitats, such as prairie dog colonies, within the territory of nesting pairs can be a major problem for the viability of nesting golden eagles (Tyus and Lockhart 1979). Thus, not only should nest buffers be implemented, but 19l the overall integrity of the landscape should be maintained (or improved in areas where it is currently degraded) in order to better provide for raptor viability.

Burrowing Owls

19 Nationwide, the burrowing owl is a species on the decline. As of 1997, over half of the agencies across North America tracking burrowing owl population trends reported declining populations, while none reported increasing populations (James and Espie 1997). Burrowing owl populations are highly susceptible to stochastic disturbances such as drought, and thus may decline more rapidly than would be predicted on the basis of demographic factors alone (Johnson 1997). In Wyoming, data suggest an overall population decline, with 17.5% reoccupancy of historic sites, but the spotty quality of historical data makes comparisons difficult (Korfanta et al. 2001). 19m

19n The DFEIS states that surveys for burrowing owls "should" be conducted when construction projects are proposed on prairie dog colonies, and alludes to raptor nesting site protections in section 4.7.4.1.6 which would apply if burrowing owls are found. DFEIS at 4-83. First of all, the BLM should make the aforementioned burrowing owl surveys mandatory, rather than something that the Operator "should" do. Secondly, we were unable to locate a section 4.7.4.1.6, but would urge the BLM to implement a 1-mile buffer of no surface disturbance around any active or known burrowing owl nest, and not to allow activities within that buffer after the owls have departed the nest, in order to maintain the viability of nest site locations from year to year and to prevent active nest sites from being impacted during the off-season. 19o

Peregrine Falcon

The BLM asserts that cliffs high enough to provide suitable peregrine falcon nesting habitat (i.e., 200-300 feet high) are absent from the DFPA, and thus no impacts to peregrine falcons would be expected. DFEIS at 4-84. However, cliffs in the Haystacks and possibly along Willow Creek Rim meet these criteria and might possibly be used by peregrine falcons as nest sites. With this information in mind, the BLM should re-examine its analysis of impacts to peregrine falcons in the FEIS. 20

Wolves

21a There is no analysis of the effect of the Desolation Flats project on the dispersal or recovery of gray wolves in the southern Red Desert in the DFEIS. According to USFWS reports (Status Report of Ed Bangs, May 30, 2003), "We received a reliable report of a gray uncollared wolf-like canid about 7 miles north of Baggs, WY indicating that a wolf [or tame wolf hybrid] may have dispersed within spitting distance of Colorado." This report is available at http://mountain-prairie.fws.gov/wolf/wk05302003.htm. This area is very close to the DFPA, and within easy reach of a dispersing wolf. 21 In light of this report, the BLM must initiate a Section 7 consultation with the USFWS concerning the possible impacts of the Desolation Flats project on dispersing wolves (and also the potential of eventual wolf colonization of the DFPA). The BLM must also present a credible impacts analysis of the effects of full-field development on wolf recovery in this area. 21b

Sage Grouse

22 Wyoming sage grouse populations are some of the largest left in the nation and are relatively stable (showing a 17% decline from 1985-1994); nonetheless, sage grouse populations have experienced major declines rangewide in recent decades (Connelly and Braun 1997). WGFD (2000) reported that since 1952, there has been a 20% decline in the overall Wyoming sage grouse population, with some fragmented populations declining more than 80%; Christiansen (2000) reported a 40% statewide decline over the last 20 years. These declines are attributable at least in part to habitat loss due to mining and energy development and associated roads, and habitat fragmentation due to roads and well fields (Braun 1998). We have attached the Great Divide RMP Scoping Comments of Dr. Clait Braun, the world's leading sage grouse expert, to this document and incorporate them into these comments in full by reference. 22a We urge the BLM to comply with all of Dr. Brauin's expert recommendations regarding sage grouse in the FEIS. It is crucially important that the Desolation Flats project include stronger mitigation measures to provide for the maintenance and recovery of sage grouse populations, because this bird is headed for the Endangered Species List if population losses continue. 22b

Connelly et al. (2000) provide a review of the many short- and long-term effects of energy development on sage grouse. Aldridge (1998) noted that oil and gas development has contributed to the serious decline of Canadian sage grouse populations, stating,

> "the removal of vegetation for well sites, access roads, and associated facilities can fragment and reduce the availability of suitable habitat. Furthermore, human and mechanical disturbance at wells may disrupt breeding activities, and traffic on access roads could cause some fatalities of birds.... Even if sites are reclaimed at a later date, birds may fail to return to previously used habitats."

Currently, only 7 of 31 historic lek complexes remain active in Canada (Braun et al., in press). For this Canadian population, these researchers have stated, "The future plans for oil and gas developments within the range of sage-grouse are unknown, but expansion is expected. The cumulative impacts of further activities could result in reduction of the Alberta sage-grouse population to non-viable levels."

It is interesting to note that in the central Washakie Basin lands that fall within the Bitter Creek Upland Game Bird Management Area, there are 6 active sage grouse leks and 10 historic leks inside or within 2 miles of the DFPA, while outside this radius, there area zero active sage grouse leks and 28 historic lek sites that are no longer active. *See* Figure 5-3, DFEIS at 5-20. Many of the former sage grouse leks are clustered in the Continental Divide – Wamsutter area, which has been hammered by heavy gas development over the past 50 years. This fact suggests that full-field development is fundamentally incompatible with the maintenance of viable sage grouse populations. 22 It also highlights the tenuous nature of sage grouse populations in this region as well as the importance of the DFPA to the maintenance of a viable sage grouse population in the Washakie Basin. If the sage grouse leks inside and within 2 miles of the DFPA become inactive, then there will be no known sage grouse breeding and nesting activity remaining in the Bitter Creek Upland Game Bird Management Area, no known reproduction, and a strong likelihood of extirpation of sage grouse from this part of the Red Desert.

Oil and gas development poses perhaps the greatest threat to sage grouse viability in the region. In a study near Pinedale, sage grouse from disturbed leks where gas development occurred within 3 km of the lek site showed lower nesting rates (and hence lower reproduction), traveled farther to nest, and selected greater shrub cover than grouse from undisturbed leks (Lyon 2000). According to Lyon (2000), impacts of oil and gas development to sage grouse include (1) direct habitat loss from new construction, (2) increased human activity and pumping noise causing displacement, (3) increased legal and illegal harvest, (4) direct mortality associated with reserve pits, and (5) lowered water tables resulting in herbaceous vegetation loss. All of these impacts must be thoroughly evaluated in the FEIS. Pump noise from oil and gas development may reduce the effective range of grouse vocalizations (Klott 1987). Thus, lek buffers are needed to ensure that booming sage grouse are audible to conspecifics during the breeding season. Connelly et al. (2000) recommended, "Energy-related facilities should be located >3.2 km form active leks" (p. 278). But Clait Braun (pers. comm.), the worlds most eminent expert on sage grouse, recommended even larger NSO buffers of 3 miles from lek sites, based on the uncertainty of protecting sage grouse nesting habitat with smaller buffers. 22c

The area within 2 or 3 miles of a sage grouse lek is crucial to both the breeding activities and nesting success of local sage grouse populations. Autenreith (1985) considered the lek site "the hub from which nesting occurs" (p. 52). Grouse exhibit strong fidelity to individual lek sites from year to year (Dunn and Braun 1986). During the spring period, male habitat use is concentrated within 2 km of lek sites (Benson et al. 1991). In a Montana study, Wallestad and Schladweiler (1974) found that no male sage grouse traveled farther than 1.8 km from a lek during the breeding season. Hulet et al. (1986) found that 10 of 13 hens nested within 1.9 miles of the lek site during the first year of their southern Idaho study, with an average distance of 1.7 miles from the lek site; 100% of hens nested within 2 miles of the lek site during the second year of this study, with an average distance from lek of 0.5 mile. In Montana, Wallestad and Pyrah (1974) found that 73% of nests were built within 2 miles of the lek, but only one nest occurred within 0.5 mile of the lek site. Because leks sites are used traditionally year after year and represent selection for optimal breeding and nesting habitat, it is crucially important to protect the area surrounding lek sites from impacts. Thus, the prohibition of surface disturbance within 2 miles (minimally) or 3 miles (optimally) of a sage grouse lek is the absolute minimum starting point for sage grouse conservation. 22d

Under the Proposed Action, only areas within ¼ mile of sage grouse leks would be withdrawn from surface disturbance, and mere timing stipulations would prevent construction activities within 2 miles of lek sites between March 1 and June 30. DFEIS at 2-38. These measures are clearly insufficient, because they would allow construction of roads and well pads in the area between ¼ and 2 miles of the lek site, creating major impacts to sage grouse during the crucial nesting season. Despite the provision that construction activities would not be allowed during the breeding and nesting period, these impacts, along with the vehicle traffic that will inherently be associated with them, will be present during the breeding and nesting periods in subsequent years. 22 Lyon (2000) pointed out that quarter-mile lek buffers used in the Pinedale area, the same measures the BLM proposes for the DFPA, are insufficient to maintain the viability of grouse populations. Connelly et al. (2000) recommended that sage grouse habitat should be protected within 3.2 km of lek sites under ideal habitat conditions, within 5 km when habitat conditions are not ideal, and within 18 km where sage grouse populations are migratory. Furthermore, these same researchers stated that in areas where 40% or more of the original breeding habitat has been lost, all remaining habitat should be protected. Considering that in the Bitter Creek Upland Game Bird Management Area, only 6 leks are active while 38 leks previously known to be active no longer have sage grouse (see map, DFEIS at 5-20), even given the possibility that some leks were abandoned due to movement to new sites, the original breeding habitat that has been lost clearly exceeds 60% in this area.

Even the minimal measure of prohibiting year-round surface disturbance within 2 miles of lek sites may not be sufficient to protect nesting habitats in all cases. For example, in Bates Hole, Wyoming, Holloran (1999) found that average nesting distance from lek site was 3.25 km for adults and 5.27 km for yearlings. Wakkinen et al. (1992) also cautioned that leks were poor predictors of sage grouse nest sites; although 92% of sage grouse nested within 3.2 km of a lek in this study, sage grouse did not necessarily nest near the same lek where breeding took place. A detailed study of nesting habitat use is therefore needed to identify all important nesting areas in the FEIS, and NSO protective measures must be extended to all identified nesting areas. 22e

In addition to breeding and nesting habitats, early- and late-brood-rearing habitats must also be identified and protected. But the DFEIS makes no mention of brood-rearing habitat, nor does it provide protective measures for such habitats. 22f Sage grouse may move some distance from nesting sites for early and late brood rearing. In western Wyoming, Lyon (2000) found that sage grouse moved an average of 1.1 km from the nest site for early brood-rearing, and late brood-rearing habitats averaged 4.8 km distant from the early brood-rearing areas. In Bates Hole, Holloran (1999) found that early brood rearing habitats are typified by decreased sagebrush cover and height and increased forb abundance, and movement to riparian sites occurred as uplands became dessicated. This pattern of movement and habitat selection is echoed in the findings of Oakleaf (1971). In western Wyoming, wet meadows, springs, seeps, and other green areas within sagebrush steppe were important for early brood-rearing, while late brood rearing focused on irrigated hay meadows, wet meadows, and drainage bottoms which remained green when early brood rearing habitats were withering (Lyon 2000). This researcher found that most recruitment loss occurred during the early brood rearing stage, and that this may be a limiting factor in sage grouse populations (Ibid.). In Nevada, Oakleaf (1971) found that meadows with succulent forbs, while occupying only 2.3% of grouse home ranges during the brood rearing period, were disproportionately important as brood-rearing habitat. Brood-rearing habitats should thus be identified and managed to maximize sage grouse recruitment success through protective measures laid out in the FEIS. 22g

Beck (1977) cautioned that protection of lek sites only is insufficient to maintain sage grouse winter habitats. And Connelly et al. (1988) later cautioned, "Protection of sagebrush habitats within a 3.2 km radius of leks may not be sufficient to ensure the protection of year-long habitat requirements" (p. 116). Non-migratory sage grouse winter on their nesting and brood-rearing habitats, while migratory populations may travel some distance to winter on traditional wintering areas. For non-migratory populations, nesting habitat and wintering habitat are one and the same (e.g., Wallestad and Pyrah 1974). In a western Wyoming study, however, sage grouse were migratory and traveled at least 35 km to separate wintering grounds (Berry and Eng 1985). 22 In Colorado's North Park, Beck (1977) found that grouse migrated 5-20 km away from breeding areas during winter. In a southeastern Idaho study, Connelly et al. (1988) found that some adult sage grouse moved more than 60 km to winter range, and some juveniles moved more than 80km, despite the availability of suitable wintering habitat nearby. The meager data presented in the DFEIS (point data rather than spatial in nature) indicates that at least some grouse are concentrating in areas distant from leks during severe winters, but no data is presented for average winters. Additional measures are needed to protect sage grouse wintering habitat, for both severe winters and normal winters. 22h

Only very weak protections for sage grouse wintering habitat are provided in the DFEIS, and this deficiency must be corrected in the FEIS. No surface disturbance would be allowed in identified sage grouse severe winter relief habitat. DFEIS at 2-38. The DFEIS makes no attempt to identify sage grouse crucial winter ranges that are used during ordinary winters, merely the habitats that are used by grouse during exceptionally severe winters, which might come once or twice a decade. 22i Needless to say, if the sage grouse crucial winter habitats are destroyed by oil and gas development so that grouse are force onto suboptimal habitats during average winters, overwinter survival and spring reproduction could be drastically reduced, ultimately resulting in a situation where there are no grouse left to enjoy the severe winter relief habitats when the harsh winter arrives. This is an unacceptable oversight on the part of the BLM, and the agency must identify grouse crucial winter habitat for ordinary winters in the FEIS and also provide protective measures that assure that this important habitat is not degraded by gas development or road-building. 22j

The cumulative impacts analysis that reveals that 9.3% of sage grouse breeding habitat can be

expected to be impacted is troubling. DFEIS at 5-21. Equally troubling as this overall figure is the
BLM's calculation that only 3.1% of cumulative nesting habitat will be disturbed. This is a gross
underestimate – the cumulative impact analysis assumes that the paltry and wildly inadequate
mitigation measures planned for the Desolation Flats project will only result in about a 1%
disturbance to sage grouse breeding habitat. This assumption is predicated on the idea that the
¼-mile NSO buffers and 2-mile seasonal limitations on construction "would ensure that overall 22
impacts to greater sage-grouse populations within the DFPA are low." DFEIS at 5-19. It is a
well-known scientific principle, supported by a number of studies over the last 4 decades, that
sage grouse nest mostly within 2 miles of a lek site, but sometimes even farther away.

The BLM claims that each alternative in the DFEIS would result in "NSI {No Significant Impact] w/ mitigation" with regard to sage grouse leks, nesting habitats, and severe winter relief habitats. DFEIS at 2-46.

Wyoming Pocket Gophers

The BLM notes that the Wyoming pocket gopher is likely to be found in the DFPA. DFEIS at
4-82. Indeed, this species is found exclusively in the southern Red Desert, and nowhere else, and 23a
the DFPA likely represents the core of its habitat and range. The BLM argues that the proposed
full-field development of the DFPA will have "no significant impacts on this species." DFEIS at 23
4-82. From what analyses does the BLM derive this highly dubious conclusion? No data are
presented regarding expected effects of the project on mortality, recruitment, or behavior of this
species that suggest that an industrial development on this massive scale would have no negative 23b
effect on Wyoming pocket gopher populations.

Mountain Plovers

The mountain plover is proposed for listing as Threatened under the Endangered Species Act, and
its rangewide decline appears to be continuing. Wyoming (along with Colorado and Montana) is
one of three states that encompass the majority of plover's breeding population (USFWS 1999);
approximately 1,500 birds are estimated to occur in Wyoming (Long 2001). On Mexican Flats
(portions of which occur within the DFPA), nesting plovers are associated with bare ground and
prairie dog colonies amid scattered sagebrush; 8 nesting pairs were recorded in this area in 2000,
and 23 birds were recorded after the nesting season in 2001 (Fritz Knopf, pers. comm.). This 24
nesting concentration area has been proposed by conservation groups as an ACEC under the
Great Divide RMP revision. In addition, the DFEIS indicates that a second plover nesting
concentration area is found immediately southeast of the Haystacks in the Monument Valley
Management Area. See Map H-3, DFEIS at H-11. We have attached the Scoping Comments of
Dr. Stephen Dinsmore, a well-known mountain plover expert, and incorporate this attachment in
full into our comments by reference. We recommend the BLM comply with all of Dr. Dinsmore's
expert recommendations concerning plovers in the forthcoming FEIS.

Oil and gas development in nesting concentration areas is a direct threat to mountain plover
population viability. The U.S. Fish and Wildlife Service found that the Seminoe Road Coalbed 24a
Methane project "is likely to adversely affect the proposed mountain plover," stating that
wellfields are likely to become an "ecological trap," attracting feeding plovers to roadways where
they become susceptible to vehicle-related mortality, or alternately increased vehicle traffic could
drive plovers away from preferred nesting areas (Long 2001). The USFWS (1999) added that
vehicle traffic on roads could lead to stress and chick abandonment. These officials noted that any
human disturbance that significantly modifies adult behavior could cause death to chicks, which
can die in as little as 15 minutes due to exposure to sun at temperatures greater than 81° F. Long
(2001) noted that construction equipment and permanent structures inherent to oilfield
development constitute a radical increase in raptor perches that could result in increased predation
pressure. In addition to these problems, wellfield development can lead to increased invasion
rates of non-native weed species, which can have serious impacts on plover nesting habitat by 24b
decreasing the availability of bare ground (Good et al. 2001).

Under the Proposed Action, plover surveys would be conducted prior to construction between 24
April 10 and July 10, but well pads and disturbances would be placed outside mountain plover
habitat only "where feasible." DFEIS at 2-38. This lack of a hard requirement is both
disconcerting and inadequate to protect nesting plovers. In addition, where plovers are found,
construction activities would be postponed (but not halted) until 1 week post-hatching. DFEIS at
2-39. This measure would guarantee that while plover nesting could continue during the 24c
construction season, plover nesting habitat would be destroyed for all future years, until such time
that the project had ended (30-50 years in the future) and roads and wellpads were finally
reclaimed. This is a major and significant impact in and of itself to plover nesting habitat. The
BLM claims that each alternative in the DFEIS would result in "NSI {No Significant Impact] w/
mitigation" with regard to mountain plovers. DFEIS at 2-46. This is a completely unsupported 24d
and unsupportable assertion. As noted above, proposed mitigation measures are completely
inadequate. In order to prevent significant impacts to plovers, the BLM must provide prohibitions
on surface disturbance for all plover nesting concentrations with a ½-mile buffer to prevent
elevated structures (which become raptor perches) from being constructed within sight distance 24e
of nesting concentration areas, and nearby roads becoming ecological traps for plover adults and
their chicks.

Prairie Dogs

The DEIS lists white-tailed prairie dogs as one of the six "primary wildlife resource concerns" (p.
4-56) analyzed; yet, while impacts to the other concerns (big game crucial winter ranges,
overlapping big game crucial winter ranges, sage-grouse, raptor nests, and potential mountain
plover habitat) are discussed in relative detail on their own merits, white-tailed prairie dogs are 25
discussed throughout this document only in the context of potentially harboring some remaining
wild black-footed ferrets. The importance of conserving the white-tailed prairie dog because it is
imperiled, declining, and designated as a BLM Sensitive Species and because it is extremely
important in supporting healthy populations of other imperiled, declining, and BLM Sensitive 25a
Species is completely overlooked, and the resulting analysis is inadequate.

I. The DEIS underestimates the likely impacts to white-tailed prairie dogs and associated species.

The DEIS underestimates the likely impacts to white-tailed prairie dogs and associated species in 25b
several ways, and, as a result, fails to take the requisite "hard look" at the potential environmental 25c
consequences. First, the BLM has no idea where the wells will be located. Second, the BLM 25d
makes the unsupported assumption that most impacts to prairie dogs will be temporary.

A. Well locations are unknown, and could be clustered on or around colonies.

The BLM estimates that the Proposed Action will result in the long-term disturbance of 2139
acres, and admits, "well locations are not known at this time" (p. 4-56). Without knowing where
the wells will be located, the BLM states, "the anticipated disturbance of white-tailed prairie dog
colonies is expected to be low" (p. 4-82). It seems impossible to support this statement without 25e

knowing where the disturbance is planned. For example, if all the long-term disturbance occurred on prairie dog colonies within the project area, as much as 37% of the area they presently inhabit could be lost. 25e 25

B. Much of the disturbance is assumed to be "temporary" but is likely to have long-term effects.

The DEIS anticipates that the construction phase will take 20 years, which would involve multiple generations of prairie dogs. Based on the examination of crania from dead white-tailed prairie dogs, Clark *et al.* (1973) estimated that survival to age four is uncommon in white-tails. Similarly, the very oldest individual found during Hoogland's (2001) 13-year study of black-tailed prairie dogs was an eight-year old female. Thus the project could easily impact five generations of prairie dogs, which cannot be construed as a temporary effect for those populations. 25f

The DEIS assures that reclamation "would result in re-establishment of vegetation in these areas, in a relatively short time period" (p. 4-59). Unfortunately, the vegetation that does become established is likely to consist of noxious weeds, which may permanently alter habitat quality. 25g

The BLM acknowledges that shrub establishment will take longer – "8 to 15 years" (p. 4-59). White-tailed prairie dogs do not remove or clip vegetation that would otherwise obstruct their line of sight, as black-tailed prairie dogs do (Tileston and Lechleitner 1966; Clark 1973; Clark 1977; Hoogland 1981), and instead are adapted to use shrubs to hide from predators. Therefore, increased predation may result from shrub removal and this effect may also last for generations. 25h

The DEIS suggests that small mammals would be killed during the initial construction phase, but does not factor in the prolonged increase in white-tailed prairie dog mortality rates that should be expected from the construction of new roads, which result in road kills and allow increased access for prairie dog shooters. Gordon *et al.* (2003) surveyed black-tailed prairie dog shooting pressure at Thunder Basin National Grassland and found that "large towns with easy road access received the greatest amount of shooter pressure, whereas smaller more remote towns were frequently either not visited by shooters at all or were visited primarily by local shooters" (p. 12). The Colorado Division of Wildlife, BLM, and Fish and Wildlife Service have also made the connection between road access and prairie dog shooting pressure: "The BLM has determined that about 30 percent of the prairie dog colonies in the WCMA [Wolf Creek Management Area] are accessible to roads, and therefore easily accessible to shooters. Shooting prairie dogs at the other locations in the WCMA would require walking, which reduces the likelihood that significant levels of shooting would occur relative to that from the existing roads" (Colorado Division of Wildlife *et al.* 2002, p. 10). For Wyoming's Great Divide Basin, Maxell (1973) noted, "Most active prairie dog towns were located some distance from the main thoroughfares in the Basin, probably due to human predation in the form of varmint hunters" (p.85). While the DEIS does include increases in roadkills and illegal poaching as "principal wildlife impacts likely to be associated with the Proposed Action or alternatives" (p. 4-56), it does not discuss these impacts in the General Wildlife section, and does not consider the fact that prairie dog shooting is legal and unregulated in Wyoming. 25i

Part of the rationale for classifying the impacts to small mammals as temporary is that "the high reproductive potential of these small mammals would enable populations to quickly repopulate the area once reclamation efforts are initiated." DFEIS at 4-59. White-tailed prairie dog biology contradicts this assertion. First, they reproduce relatively slowly. Females have only one litter per year (Clark *et al.* 1971), and studies have documented that the average number of white-tailed pups that survived to emerge from their natal burrow ranged from only 1.64 (Menkens and Anderson 1985) to 4.8 (Flath 1979). Pups also do not become sexually mature until the following spring. Therefore, white-tailed prairie dog populations are not able to rapidly capitalize on favorable conditions. The DEIS also assumes that source populations will still be available years after the disturbance (during the reclamation phase), but white-tailed prairie dog populations have become highly unstable because of plague, and population crashes and colony extirpations are the norm. 25

The BLM further states, "The anticipated disturbance of white-tailed prairie dog colonies is expected to be low, and no significant impacts to white-tailed prairie dogs are expected." DFEIS at 4-82. In the absence of site-specific locations for road, pipeline, and well construction, the BLM has no way of knowing or accurately forecasting where disturbance will take place, and the agency is therefore in no position to speculate about the proportion of prairie dog colonies that will be subjected to full-field development with all of its associated impacts. The BLM's conclusory statement on the lack of impacts to prairie dogs is therefore arm-waving in the absence of any credible data whatsoever, a wild guess with no scientific integrity or credibility. The BLM must rectify this absence of analysis by publishing the locations of proposed developments, quantifying the percentage of prairie dog colonies that would be impacted by oil and gas development (including roadkill mortality, increased predation due to creation of raptor perches, and increased human-induced mortality through shooting and poisoning in response to increased vehicular access), and presenting a thorough analysis of these impacts on the viability of individual prairie dog colonies. 25j

Depending on the final location of the structures that this project would involve, white-tailed prairie dog habitat could be permanently fragmented, and immigration routes could be cut off. The DEIS recommends a buffer of only 50 m around prairie dog colonies. Our own research using GIS data suggests that 0.5 mi. buffers (805 m) are necessary to maintain connectivity between white-tailed prairie dog colonies. Several researchers have noted that immigration is common for white-tailed prairie dogs, which unlike black-tails are not usually territorial and thus are accepted when they enter a different colony. Clark (1973) observed, "Together, immigration and emigration seems [sic] to be relatively major phenomena in the dynamics of white-tailed prairie dog populations" (p. 161), and this intercolony movement may be an especially important plague survival strategy – prairie dogs may be able to escape infected colonies before exposure, and healthy animals can repopulate colonies after a plague event has ended.

The DEIS also does not consider the long-term impact that the presence of wells and other structures may have in providing perches for raptors, which may increase prairie dog predation. In the BLM's (2003) Final EIS for the Powder River Basin Oil and Gas Project, this was included in potential impacts to black-tailed prairie dogs: "Construction of project facilities could provide new perches for raptors and habitatsa [sic] for mammalian predator [sic]" (p. 4-256). 25k

Each of these omissions and miscalculations on the BLM's part contributes to the inaccurate assessment that impacts to white-tailed prairie dogs and associated species will be temporary, when the real result is likely to be long-term habitat conversion. 25l

II. The DEIS fails to provide adequate protections for white-tailed prairie dogs and associated species.

25m The few mitigation measures for white-tailed prairie dogs and their associates have no teeth – they are completely discretionary:

25

> Adverse impacts to black-footed ferret habitat from implementation of the Proposed Action would be avoided by not allowing surface disturbance within 50 meters of white-tailed prairie dog colonies. In the event this can not [sic] occur, a black-footed ferret survey of suitable prairie dog towns in which ground disturbing activities are proposed would be conducted (USDI-FWS 1989). If no ferrets are found, the area would be cleared for development for one year. (p. 4-74, emphasis added)
>
> It is preferred by the BLM that no disturbance occur within 50 meters of prairie dog colonies, where feasible. (p. 4-82, emphasis added)
>
> In general, all prairie dog colonies on the DFPA will be avoided, where practical (p. H-20, emphasis added).

25n The BLM has settled for merely recommending avoiding disturbance on prairie dog colonies rather than clearly prohibiting disturbance in these areas, or at least giving some sort of framework explaining under what circumstances disturbance would be allowed. 25o In addition, the BLM should formally recognize in the FEIS that available oil and gas technologies, including directional drilling, allow such protection of prairie dog colonies to be feasible in all cases, without exception. 25p As the DFEIS reads now, disturbing prairie dog colonies could be allowed at the whim of the Operator.

The DEIS acknowledges that these discretionary guidelines will in fact result in colony disturbance: "Development of the Proposed Action will likely result in direct disturbance of some portions of these prairie dog colonies within complexes" (p. I-12). This lack of protection is problematic for several reasons. The white-tailed prairie dog is a BLM Sensitive Species in Wyoming, and is trending toward listing under the ESA. It also has already been petitioned for Endangered Species Act (ESA) listing. Finally, it is closely associated with other BLM Sensitive, ESA listed, and ESA Proposed species.

A. The BLM is obligated to monitor and conserve Sensitive Species.

The BLM Manual explains that Sensitive species must be managed at least as protectively as Candidates for ESA listing: "The protection provided by the policy for candidate species shall be used as the minimum level of protection for BLM sensitive species" (BLM Manual § 6840.06(E)). These protections are as follows:

> Consistent with existing laws, the BLM shall implement management plans that conserve candidate species and their habitats and shall ensure that actions authorized, funded, or carried out by BLM do not contribute to the need for the species to become listed. Specifically, BLM shall:
>
> (1) In coordination with FWS and/or NMFS [National Marine Fisheries Service] determine, to the extent practicable, the distribution, population dynamics, current threats, abundance, and habitat needs for candidate species occurring on lands administered by the BLM; evaluate the significance of lands administered by the BLM or actions undertaken by the BLM in maintaining and restoring those species.
>
> (2) For a candidate species where lands administered by the BLM or BLM authorized actions have a significant effect on their status, manage the habitat to conserve the species by:
>
> a. Ensuring candidate species are appropriately considered in land use plans (BLM 1610 Planning Manual and Handbook, Appendix C).
>
> b. Developing, cooperating with, and implementing rangewide and or site-specific management plans, conservation strategies, and assessments for candidate species that include specific habitat and population management objectives designed for conservation, as well as management strategies necessary to meet those objectives.
>
> c. Ensuring that BLM activities affecting the habitat of candidate species are carried out in a manner that is consistent with the objectives for managing those species.
>
> d. Monitoring populations and habitats of candidate species to determine whether management objectives are being met.
>
> (3) Request technical assistance from the FWS and/or NMFS, and other qualified sources, on any planned action that may contribute to the need to list a candidate species as threatened or endangered. (BLM Manual § 6840.06(C))

25

25q The BLM has not presented evidence that habitat destruction and fragmentation coupled with increased mortality in these complexes which represent over 9900 acres of active white-tailed prairie dog colonies will not contribute to the need to list the white-tailed prairie dog under the ESA. It has not compiled information on population dynamics, current threats, or habitat needs for white-tailed prairie dogs. 25r It has not evaluated the significance of these two complexes or how the Proposed Action would contribute to maintaining or restoring the white-tailed prairie dog. The BLM has not yet developed habitat or population management objectives for white-tailed prairie dogs at any scale – not for this project, not for Wyoming, and not rangewide. Therefore, the BLM cannot ensure that approving this project is consistent with white-tailed prairie dog management objectives. 25s The BLM should also coordinate with the multi-state prairie dog conservation team to determine how the development of these large complexes may affect the states' attempts to conserve the white-tailed prairie dog and avert ESA listing.

B. The BLM must not contribute to the need to list species under the ESA.

As discussed in the previous section, the BLM Manual prohibits the agency from authorizing actions that contribute to the need to list species under the ESA. Center for Native Ecosystems, Biodiversity Conservation Alliance, and others petitioned the Fish and Wildlife Service to list the white-tailed prairie dog under the ESA in July 2002 (CNE *et al.* 2002). In February of 2003 we filed suit against the Fish and Wildlife Service for its failure to issue a preliminary finding within 90 days of receipt of the petition. 25t Our petition and complaint make clear that ESA listing is warranted for this species. Now the BLM proposes to permit the conversion of a 9400+ acre white-tailed prairie dog complex to oil and gas development with only discretionary mitigation. Our white-tailed prairie dog research has revealed only 20 complexes of at least this size throughout the species' nationwide range. While it is possible that additional large complexes will be found, it is just as possible that many of these 20 complexes have experienced substantial declines since they were last inventoried, and the large complex within the Desolation Flats Project Area may be one of only a handful of complexes left that approach 10,000+ acres. 25u Until white-tailed prairie dog status rangewide is better understood, the BLM and other federal agencies should take a precautionary approach in managing large complexes. Center for Native Ecosystems, Biodiversity Conservation Alliance, and others have compiled a report on recommended white-tailed prairie dog management practices which may be useful to the BLM (CNE *et al.* 2003b). 25

C. **Other ESA listed and BLM Sensitive species may be affected by the failure to conserve white-tailed prairie dogs.**

The BLM has analyzed the potential impacts to black-footed ferrets only in the context of how the project could affect any wild ferrets that remain in the area; it has not considered the impacts of reducing the favorability of this area as a potential ferret reintroduction site. 25v

The BLM also makes the connection between other imperiled species like the BLM Sensitive western burrowing owl and the Proposed Threatened mountain plover and prairie dogs, but does not consider the consequences that prairie dog habitat loss could have on these species. 25w The BLM must also fully evaluate the significance of lands administered by the BLM or actions undertaken by BLM in conserving, maintaining, and restoring these species, and the BLM must determine the occurrence, distribution, abundance, condition, population dynamics, habitat conditions and needs, and current threats of and to these species. 25x

The BLM is also required to develop and implement programs, management plans, conservation strategies, and/or assessments for the conservation of these species and their habitats, including specific management objectives and strategies; to monitor populations and habitats to determine whether management objectives are being met; and to monitor and evaluate ongoing management activities to ensure conservation objectives, recovery needs, and recovery objectives are being met.

For all of these reasons, the BLM must provide meaningful and enforceable protections for white-tailed prairie dog colonies and for other Sensitive species within the Project Area. 25y

III. **The DEIS does not consider how this project could affect black-footed ferret recovery.** 25z

The Fish and Wildlife Service has emphasized the important role that prairie dog complexes of greater than 1000 acres will play in black-footed ferret recovery: "Towns or complexes of 1,000 or more acres should be given special consideration for their importance to the overall recovery and survival of the black-footed ferret as potential reintroduction areas. The Service would like to minimize disturbances of these areas until black-footed ferret reintroduction sites have been selected" (U.S. Fish and Wildlife Service 1989, p. 5). The Service has also made clear that they should be contacted before projects are conducted on prairie dog complexes of this size: "Before any federally funded or permitted activities are conducted on black-tailed or white-tailed prairie dog towns or complexes greater than 1,000 acres, the appropriate Service office should be contacted to determine the status of the area for future black-footed ferret reintroductions" (U.S. Fish and Wildlife Service 1989, p. 4). However, the DEIS presents no evidence that the Fish and Wildlife Service has been apprised or has determined that this area is not essential to black-footed ferret recovery. Until this takes place, the BLM cannot conclude that the Proposed Action is not likely to affect black-footed ferret recovery. 25aa

IV. **Approving this project now violates NEPA's prohibition on interim actions.** 25bb

Approving development in this area now, while the Great Divide Resource Management Plan is being revised, while ACEC nominations for the area in question are being considered, and while black-footed ferret reintroduction sites are still being selected violates NEPA's prohibition on interim actions: "Until an agency issues a record of decision . . . no action concerning the proposal shall be taken which would: (1) Have an adverse environmental impact; or (2) Limit the choice of reasonable alternatives" (40 C.F.R § 1506.1(a)).

A. **The current Great Divide Resource Management Plan does not address prairie dog management, but this problem should be redressed through revision.** 25cc

The BLM is currently developing management alternatives for the revised Great Divide Resource Management Plan (RMP), and expects to complete plan revision by Summer 2004. Approving this project now will have adverse environmental impacts and limit the choice of alternatives that conserve white-tailed prairie dogs and associated species in the revised RMP. 25dd During the RMP revision process, land use decisions should not prejudice the alternatives or range of decisions to be considered for an area. *See Southern Utah Wilderness Alliance et al.*, 111 IBLA 207, 212, (1989) (striking down BLM approval of application for jeep trip where proposal was not properly analyzed under NEPA and was contrary to the existing RMP); *Uintah Mountain Club*, 112 IBLA 287 (1990) (striking down BLM off-road vehicle route designation which did not conform to the approved RMP). 25

One of the critical issues the BLM addresses during RMP revision is whether and which areas should be open to oil and gas development in the first place. BLM Handbook 1624, Planning For Fluid Mineral Resources (or H-1624-1). H-1624-1, for instance, requires BLM in the amendment/revision process to look at areas open to leasing in any capacity, open to leasing with restrictions, open to leasing with No Surface Occupancy and areas open to leasing with special stipulations of conditions of approval. H-1624-1, Ch. IV. B., C.2. "During the amendment or revision process, the BLM should review all proposed implementation actions [this includes oil and gas leasing] through the NEPA process to determine whether approval of a proposed action would harm resource values so as to limit the choice of reasonable alternative actions relative to the land use plan decisions being reexamined." H-1601-1 at VII.E.

Right now the RMP provides no management direction for white-tailed prairie dogs or their habitat, and this must be remedied before the BLM approves oil and gas development in a major complex.

B. **This area has been nominated for ACEC designation.**

On Janurary 21, 2003, CNE and others (2003a) submitted nominations to Kurt Kotter, Rawlins Field Manager, and Ted Murphy, Rock Springs Field Manager, for the designation of ten large white-tailed prairie dog complexes and within their respective Field Offices as Areas of Critical Environmental Concern (ACECs) under the Federal Land and Policy Management Act (FLPMA) 25ee of 1972, 43 U.S.C. § 1701, *et seq.* and the Administrative Procedure Act 5 U.S.C. § 551 *et seq.*, and pursuant to BLM Manual 1613.21.A.2.a and 1613.41. These areas included the Dad Complex in the Rawlins Field Office, the same large complex found within the Desolation Flats Project Area.

On April 28, 2003, the Wyoming State Office of the BLM wrote to the organizations that had nominated these complexes. In addition to confirming receipt of the nominations, the State Office explained, "the Field Offices will be conducting evaluations of the nominations for their respective planning areas in accordance with the Bureau's planning manuals and guidelines".

The Manual is clear that nominated areas that meet the relevance and importance criteria should be considered for special temporary management until designation is completed:

> Evaluate Each Resource or Hazard to Determine if it Meets Both the Relevance and Importance Criteria. This initial evaluation is accomplished by an interdisciplinary team as part of the analysis of the management situation during the resource management planning process (BLM Manual Section 1616.4). The Area Manager, with District Manager concurrence, approves the relevance and importance evaluations. An area meeting the criteria is identified as a potential ACEC appropriate for further evaluation in the RMP process and perhaps temporary management. (BLM Manual 1613.21C)

The Rawlins Field Office has not informed us of the results of their evaluation of the Dad Complex, and it is entirely likely that temporary management is necessary. These "timely" evaluations are to be completed and temporary management is to be instituted even if RMP 25 revision is not actively underway:

> If an area is identified for consideration as an ACEC and a planning effort is not underway or imminent, the District Manager or Area Manager must make a preliminary evaluation on a timely basis to determine if the relevance and importance criteria are met. If so, the District Manager must initiate either a plan amendment to further evaluate the potential ACEC or provide temporary management until an evaluation is completed through resource management planning. Temporary management includes those reasonable measures necessary to protect human life and safety or significant resource values from degradation until the area is fully evaluated through the resource management planning process. (BLM Manual 1613.21.E)

Thus, by failing to protect the Dad Complex from degradation until the Great Divide RMP revision is complete, the BLM is in violation of its own Manual.

C. Approving the project may remove this site from consideration as a black-footed ferret reintroduction site. 25ff

Black-footed ferret reintroduction should also be considered during RMP revision, and this project should not be permitted to forestall that option. The approval of the Desolation Flats project, with its associated impacts to the Dad prairie dog complex, potentially precludes the option of ferret reintroduction in the Washakie Basin, thereby limiting the Range of Alternatives available under the revised Great Divide RMP.

V. White-tailed prairie dogs – Conclusion

Conserving any white-tailed prairie dog complex of 5,000 acres or more should be a top priority for the BLM – the main agency that manages habitat for this species. The Desolation Flats Project Area contains nearly twice that amount of active colonies, including the Dad Complex which many of the undersigned groups have already proposed for protective ACEC designation. 25 Clearly, approving this project based on the limited analysis and purely discretionary mitigation measures in the DEIS would be arbitrary and capricious and would support the position that only ESA listing will be adequate to stem white-tailed prairie dog declines and promote recovery, 25gg since the state and federal agencies continue to fail to manage this species proactively.

Endangered and Sensitive Fish Species 26

The BLM's analysis of the effects of the Desolation Flats project on BLM Sensitive fishes in Muddy Creek (the bluehead sucker, roundtail chub, and flannelmouth sucker) and the Colorado 26a River Endangered fishes downstream of the project area (the bonytail, razorback sucker, humpback chub, and Colorado pikeminnow) are completely insufficient. All of these fish populations teeter on the edge of extinction/extirpation, and any added impacts to these populations could be the straw that breaks the camel's back.

According to the DFEIS, Red Wash has been classified as a Class 3 stream by WDEQ, indicating that it currently or potentially supports nongame fishes. And yet the BLM has failed to list the 26b species present in Red Wash. Are the bluehead sucker, flannelmouth sucker, or roundtail chub present in this stream? This is important baseline data to gather prior to completion of the EIS so 26c that impacts to these species as a result of the Desolation Flats project could possibly be quantified.

According to the BLM, "Soil productivity is likely to be a primary adverse impact of these project effects. Erosion can impede successful revegetation, result in a loss of site productivity, and impair water quality if eroded sediment is transported to surface water bodies. In addition, some soils and geologic units may have relatively high levels of selenium. Erosion of selenium-laden sediment could increase selenium loading of streams." DFEIS at 4-34. How will this increase in potentially toxic sediment impact the three species of BLM Sensitive fishes in the Muddy Creek drainage, or the four species of Endangered fishes downstream in the Little Snake 26d and Yampa Rivers?

Once again, the BLM's failure to present the siting locations for wells, pipelines, and roads prevents the agency from completing the required analysis of environmental impacts. 26e The BLM notes, "The magnitude of the impacts to surface water resources would depend on the proximity of the disturbance to the surface channel, slope aspect and gradient, degree and area of soil disturbance, soil character duration of time within which construction activities occur, and the timely implementation of mitigation measures." DFEIS at 4-39. This is a candid admission on the part of the BLM that because the agency does not know precisely where (and how close to 26f waterways, and on what types of soils) surface disturbances will occur, it cannot assess the magnitude of impacts to surface waters.

According to the DFEIS, "If deemed necessary, reserve and evaporative pits would be lined to prevent drilling fluids and produced water from contaminating surface waters." DFEIS at 4-39. 26g The same statement was made regarding aquifers. Ibid. What are the effects of seepage of toxic

compounds, whether produced water or other drilling wastes, on fishes in Muddy Creek and the 26g
Little Snake and Yampa systems?

The cumulative effects analysis on Endangered and Sensitive fish species is completely 26h
inadequate due to the omission of the Atlantic Rim Coalbed Methane Project from the cumulative
effects analysis. This project is not only the largest reasonably foreseeable series of impacts to the
Muddy Creek watershed and also Little Snake and Yampa systems downstream, but also the 26
nature of this proposal, with 3,880 CBM wells spewing toxic wastewater into the Muddy Creek
drainage 24 hours a day constitutes a threat that has the potential to wipe out all native fishes in
the Muddy Creek, lower Little Snake, and lower Yampa reaches, both Sensitive and Endangered.

Plant Species of Concern 27

One of the Impact Significance Criteria laid out in the DFEIS is the "removal or disturbance of
special status plants (or habitat judged important for survival) to the extent that such impact
would threaten the viability of the local population and/or induce an upgrade in the federal, state,
or resource area status." DFEIS at 4-49. With this in mind, the BLM must present a spatial
analysis of the occurrence of "habitat judged important for survival" for plant species of concern.
Secondly, the BLM must define in an unequivocal way the magnitude or level of impact that 27a
"would threaten the viability of the local population." Finally, and perhaps most importantly, a 27b
spatial presentation of wells, roads, and pipeline layouts is a prerequisite to determining the level
of significant impact under this Impact Significance Criterion. 27c

"Except for habitats occupied by plant species of concern, clearing of upland cover types would
not be significant because upland cover types are generally abundant and widely distributed
throughout the region and/or have been previously impacted (e.g., disturbed land)." DFEIS at
4-49. While this may be true, the fact that the locations of roads, wells, and pipelines is unknown 27d
to the BLM renders it impossible for the agency to determine to what extent roads, wells, and
pipelines will impact the habitats of these plant species of concern.

Noxious weeds

The BLM provides some measures to impeded the invasion of noxious weeds, but we are 28
concerned that these measures would be insufficient. Gravel brought onto construction sites
would have to weed-free. DFEIS at 2-9. This is an excellent requirement and we urge the BLM to
retain it. But what about weed sites brought in from off-site on mud-encrusted construction, 28a
drilling, or production vehicles? Will there be a requirement to power wash all equipment, pickup
trucks, and other weed-seed transporters prior to entering the DFPA? Such a measure should be
mandated in the FEIS. The agency also notes, "Lines of Russian thistle parallel roads on the
shoulders and in the ditches and on the disturbed edges of well pads, borrow sites, and other areas
of disturbance." DFEIS at 3-76. This statement indicates that current management practices are 28b
failing miserably at preventing the invasion of noxious weeds, and that additional, stronger steps
must be taken in the future.

Paleontological Resources

Detailed paleontological surveys would be required in the MVMA and on sites underlain by the
Washakie Formation, but sites on the Browns Park Formation, Laney Member of the Green River
Formation and Cathedral Bluffs Member of the Wasatch Formation would get only "spot check 29
survey." DFEIS at 2-33. And yet the BLM acknowledges, "With the exception of the Holocene
deposits that are probably too young to contain fossils, ***all the listed sedimentary rock units*** have
the potential to produce scientifically significant fossil resources." DFEIS at 3-10, emphasis
added. This would classify all sedimentary strata cropping out in the DFPA in Paleo Initiative 29a
Class 3-5. See DFEIS at 3-10. All of these classes require ground reconnaissance at minimum,
which cannot be satisfied through a mere "spot check survey." In addition, the Acceptable Plan 29
Criteria state, "On-the-ground surveys will be required prior to any surface disturbing activity."
DFEIS at A-2. This requirement directly contradicts the allowability of mere "spot check
surveys" on some geologic formations. The FEIS must unconditionally require detailed surveys 29b
prior to all surface disturbing activities, regardless of geologic formation type.

Cultural Resources

The DFEIS cultural resources analysis violates the National Environmental Policy Act (NEPA) 30

One of the enumerated purposes of NEPA is to ensure that decisions of the federal government
and its agents "preserve important historic, cultural, and natural aspects of our natural heritage."
42 U.S.C. §4331(b)(4). After reviewing the DEIS for the Desolation Flats Project Area (DFPA),
it is apparent that BLM has not taken adequate procedural steps to ensure that important known
and unknown cultural resources in the DFPA will be protected in the wake of increased energy 30a
development. Instead of taking the legally required "hard look," the BLM has, at best, taken only
a cursory glance at the potential impacts to the cultural resources in the area. *See NRDC, Inc. v.
Morton*, 458 F.2d 827, 838 (D.C. Cir. 1972).

To begin, BLM is required to provide an adequate description of the environment to be affected.
40 C.F.R. §1502.15. The DEIS falls short of this requirement in two instances. First, the DFPA is 30b
roughly 233.542 acres, but only 5% of that acreage has been surveyed for cultural resources.
DEIS at S-1, 3-81. There simply can be no adequate description of the affected cultural
environment if 95% of it has not been surveyed. In fact, BLM concedes as much, stating,
"Potential impacts to specific eligible or unevaluated properties are unknown at this time." DIES
at S-11. Second, even if the cultural resources had been properly surveyed, the specific locations
where surface disturbance will occur under the Proposed Action are unidentified. Because both
the cultural resources and the location of the impacts remain so speculative, the DEIS requires 30c
more study and ultimately more specificity. Without these changes, the DEIS is a disingenuous
assessment of the affected environment.

Similar problems exist with BLM's analysis of the environmental consequences to the cultural
resources. 40 C.F.R. §1502.16. First, BLM has identified 900 historic or prehistoric sites, yet
over half of them (56%) have not been evaluated for eligibility for nomination to the National 30d
Register of Historic Places (NRHP). DEIS at 4-97. Moreover, because these 900 sites represent
finds from only 5% of the DFPA, "[t]he DFPA has a moderate to high site density, and therefore,
high archaeological sensitivity." DEIS at S-11. Given the special potential of the area to reveal
additional and significant cultural resources, the DEIS fails to adequately assess the
environmental consequences that the Proposed Action would have on these currently unknown 30e
resources. Second, BLM's required discussion of direct and indirect effects on the known
cultural resources is inadequate and there is no mention whatsoever of cumulative impacts. DEIS
at 4-99. *See* 40 C.F.R. §§1508.7; 1508.8. As stated above, the locations and extent of the 30f
cultural resources are largely unknown. DEIS at S-11; 4-98. Similarly, none of the alternatives
give proposed locations where actual development will occur. This combination of "unknowns"
is deeply troubling. It is not possible to adequately assess the varied impacts, nor can the BLM 30g
take a "hard look" when so many basic questions remain unanswered. *Morton*, 458 F.2d at 838.

An example of BLM's failure to analyze indirect and cumulative impacts associated with the
Proposed Action is the manner in which.surface disturbance is presented and indeed, 30h
downplayed. BLM claims that with reclamation, only 3,645 acres or 1.6 percent of the DFPA
will be impacted. DEIS at S-2. These figures fail to adequately acknowledge the manner in
which the impacts will occur. Much of the "earth disturbing activities" that will result from the 30
Proposed Action will be in the form of some 542 miles of new roads. DEIS at 2-9. Acreage
alone does not begin to approximate impact. The entire area to some degree will undoubtedly
feel the impact of such extensive road development. BLM briefly mentions unauthorized surface
collecting of artifacts as an indirect impact, but again, even if BLM had attempted a more
thorough analysis it still would have been ineffective because BLM has no knowledge of the true 30i
extent of the existing artifacts and does not know precisely where development will occur. The
DEIS also fails to consider the effects of increased ORV use and human presence in the DFPA
stemming from the new road building activities. In sum, NEPA calls for BLM to make a
"reasonable, good faith, objective presentation of the topics." *Custer County Action Ass'n v.*
Garvey, 256 F.3d 1024, 1035 (10th Cir. 2001) (*quoting Holy Cross Wilderness Fund v. Madigan*, 30j
960 F.2d 1515, 1522 (10th Cir. 1992)). BLM has failed to do so here.

BLM is also responsible for looking at ways to lessen the impacts of the Proposed Action on the
cultural resources by establishing a full range of reasonable alternatives. 40 C.F.R. §1502.14. 30k
Each of the three alternatives (including the no action alternative) allows for increased oil and gas
development in the DFPA. DEIS at S-2 through S-3. BLM states, "This EIS analyzes the effects
of well pad locations, access roads, production facilities, pipelines, and other facilities associated
with natural gas development on resources and land use within the project area." DEIS at 1-10.
To the coutrary, none of the alternatives even begin to specifically analyze these impacts tn the
cultural resources; nor does BLM's reliance on future action ("procedures... *will be used*...in
arriving at determinations regarding the need and type of mitigation required") satisfy BLM's 30l
requirements under NEPA to "rigorously explore and objectively evaluate all reasonable
alternatives." DEIS at B-3 (emphasis added); 40 C.F.R. §1502.14(a).

Next, BLM's mitigation program does not sufficiently guarantee that the cultural resources in the
DFPA will be preserved. *See* 40 C.F.R. §§1505.2; 1505.3. While the "preferred strategy for
treating adverse effects on cultural properties is 'avoidance,'" BLM explains that disturbance is 30m
inevitable due to the fact that avoidance is often "imprudent or unfeasible." DEIS at B-3. Thus,
BLM admits that its primary mitigation measure will not and cannot work. Mitigation can play
an important role by reducing the impacts to the cultural resources and it should be given a more 30n
thorough treatment in the DEIS. Unfortunately, BLM's mitigation plan is essentially a non-plan,
or at best a promise to make a plan in the future. BLM states that "[m]itigation of adverse effects
to cultural/historical properties that cannot be avoided *would be* accomplished by the preparation
of a cultural resources mitigation plan." DIES at 2-40 (emphasis added). Federal courts have
held that "where an agency's decision to proceed with a project is based on unconsidered,
irrational, or inadequately explained assumptions about the efficacy of mitigation measures, the
decision must be set aside as "arbitrary and capricious." *Stein v. Barton*, 740 F.Supp 743, 754 (D.
Alaska 1990). *See also Robertson v. Methow Valley*, 490 U.S. 332, 352 (1989) ("[M]itigation
[must] be discussed in sufficient detail to ensure that environmental consequences have been
fairly evaluated...."); *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d
1372, 1381 (9th Cir. 1998) ("mere lisiting of mitigation measures is insufficient to qualify as the
reasoned discussion required by NEPA"). In sum, BLM's mitigation "plan" is an ad hoc,
piecemeal treatment of the effects to the cultural resources, not a well-thought-out, 30o
comprehensive strategy that would allow the BLM to take the legally required "hard look."

Morton, 458 F.2d at 838.

Of particular concern is the lack of any specific mitigation regarding the eligible historic trails,
most notably the Cherokee Trail. DEIS at 4-99. The identified .25 mile buffer zone might
protect the trails themselves, but may be insufficient to protect their historic and aesthetic
viewshed and character, especially because the routes of the trails have not been "verified in the 30p
field." DEIS at 3-83 through 3-85 (discussing the still unknown routes of the Shell Creek Stock
Trail, the Cherokee Trail and the Outlaw Trail). The BLM has also not provided analysis of
impacts to the viewshed of the Cherokee Trail from developments that occur beyond the ¼-mile
buffer but still inside the visual horizon of the Trail, and which could detract from the setting of 30q
the Cherokee Trail, and important component of its historical legacy. The BLM Field Office in
Pinedale incorporated a 3-mile viewshed beyond the .25 protective buffer in order to offer further
protection for the Lander Trail. *ROD, EIS for the Pinedale Anticline Oil and Gas Exploration*
and Development Project, July 2000, p.29. This is the minimal mitigation required to protect
historic trails, and we recommend even stronger protections. The BLM should require a 5-mile
no-surface-disturbance buffer around the Cherokee Trail, with COAs attached automatically as a
condition of APD approval, and exceptions granted only in cases where surface impacts would be
rendered completely invisible to visitors on the Cherokee Trail by intervening topography and/or 30r
vegetation.

In addition, the BLM notes that the Outlaw Trail ran near the DFPA, but asserts that "No sites
have been associated with outlaw activity." DFEIS at 3-80. Local lore has it that Butch Cassidy
and his Hole-in-the-Wall Gang stashed fresh horses somewhere in the Haystacks, which allowed
them to outdistance pursuers following their successful Tipton train robbery. This site may in fact 30
lie within the DFPA, as the planning area includes the easternmost portions of The Haystacks. In
addition, Cassidy and his gang supposedly kept a cabin at Upper Powder Spring, just south of the
DFPA on the Wyoming line. The most direct route between the Haystacks and Upper Powder
Spring runs straight through the heart of the DFPA, meaning that the likelihood that the Outlaw
Trail runs through the DFPA is actually quite high. An archaeological survey of the area is
needed to delineate the stretches of the Outlaw Trail than run through or near the DFPA in order
to determine the impacts of the proposed natural gas development. 30s

BLM also fails to discuss concrete monitoring plans, preferring instead, to rely on the Operators 30t
to monitor themselves and to report to BLM if cultural resources are discovered in the process of
development. DEIS at 2-40. The DEIS does not address the very real possibility that industry 30u
might choose not disclose the discovery of cultural resources to the BLM. In its analysis of the
impacts to cultural resources, BLM is required to assess the possibility that industry might not
cooperate voluntarily. *See U.S.* v. *27.09 Acres of Land*, 760 F.Supp, 345, 352 (S.D.N.Y. 1991)
(explaining that the EA was "inadequate in its failure to consider the consequences of possible
non-implementation or inadequacy of its anticipated mitigation measures.") A more
comprehensive treatment of mitigation and monitoring is necessary in order "to insure a fully
informed and well-considered decision." *Park County Resource Council, Inc. v. USDA*, 817 F.2d 30v
609, 621 (10th Cir. 1987) (*quoting Vermont Yankee Nuclear Power Corp. v. NRDC, Inc.*, 435
U.S. 519, 558 (1978)).

The DFEIS violates the National Historic Preservation Act (NHPA)

31 The policy behind NHPA is to preserve "the historical and cultural foundations of the Nation."
16 U.S.C. §470(b). Congress recognized that "in the face of ever-increasing extensions

of...industrial development," the "preservation of this irreplaceable heritage" serves to maintain a "vital legacy...for future generations of Americans." *Id.* Section 106 of NHPA mandates procedural requirements for agencies to follow when a federal "undertaking" is contemplated. 16 U.S.C. §470f. Additionally, agencies have substantive obligations under section 110 of NHPA. 16 U.S.C. §470h-2. BLM's inadequate analysis of the cultural resources in the DFPA blatantly disregards its responsibilities under NHPA. 31a

First, Section 106 of NHPA requires that an agency give the Advisory Council on Historic Preservation (ACHP) "a reasonable opportunity to comment with regard to such undertaking" when the undertaking may have an effect on "any...site...that is included in or eligible for inclusion in the National Register." 16 U.S.C. 470f. Under this act, it is the State Historic Preservation Office [SHPO] that acts as the contact and is the "key participant in the review process." *Utah Council, Trout Unlimited v. U.S. Army Corps of Engineers*, 187 F.Supp.2d 1334, 1350 (D.Utah 2002). The regulations interpreting section 106 of NHPA stress the importance of timing in the consultation process. 36 C.F.R. §800.1(c). "The agency shall ensure that the section 106 process is initiated *early* in the undertaking's planning, so that a broad range of alternatives may be considered during the planning process for the undertaking." *Id.* (emphasis added). 31 The WY state protocol agreement reiterates BLM's responsibilities, stating that "[a]s major projects become known, each Field Office manager has the responsibility to contact the SHPO to discuss upcoming projects that are likely to affect cultural resources (i.e., large land disturbing projects....) This consultation should occur *as early as possible in the planning process* with the objective being to facilitate the accomplishment of these projects in ways that meet heritage preservation goals." State Protocol Agreement, 4/15/99 (emphasis added).

As of June 20, 2003, some three months after the publication of the DEIS, the Wyoming SHPO had not received a request to comment (phone conversation with Fred Chapman, Archaeologist/Native American Liaison, WY SHPO, 6/20/03). The fact that the SHPO was not consulted prior to the publication of the DEIS (and has still not been contacted months after its publication) contravenes both the letter and spirit of the regulations. *Id.* BLM should make consultation regarding the irreplaceable cultural resources found in the DFPA an immediate priority. 31b

BLM's second violation involves section 101(d)(6)(B) of NHPA. 16 U.S.C. 470a. The regulations interpreting this section explain that an agency official is "require[d]...to consult with any Indian tribe...that attaches religious and cultural significance to historic properties that may be affected by an undertaking." 36 C.F.R. §800.2(c)(2)(ii). BLM states that "[c]onsultation with appropriate Native American tribes concerning areas of concern to them for traditional, cultural, and religious purposes *would occur*...within the context of specific development proposals, but *would also be* an ongoing process between BLM and affected Indian tribes and traditional cultural leaders." DEIS at 3-83 (emphasis added). Again, the use and tense of the word "would" denotes a future, hypothetical consultation — not an actual, present consult as required by the regulations. Timing is crucial in order to ensure that tribes and organizations have "a reasonable opportunity to identify...concerns about historic properties...advise on the identification and evaluation of historic properties...articulate...views on the undertaking's effects on such properties, and participate in the resolution of adverse effects." 36 C.F.R. §800.2(c)(ii)(A). For this reason, "[c]onsultation should *commence early* in the planning process, in order to identify and discuss relevant preservation issues and resolve concerns...." *Id.* (emphasis added). 31c

It appears from the text of the DEIS that even at this late stage, BLM has chosen not to make the effort to contact the appropriate Native American groups. 31d After a two recent phone conversations with an archaeologist in the Rawlins Field Office, however, it seems letters were sent to the Shoshone Tribal Cultural Center, the Eastern Shoshone Tribal Council, the Comanche Business Council, the Northern Arapaho Tribal Business Council, the Fort Hall Business Council, the Northern and Southern Ute Tribes and the Medicine Wheel Coalition, but none of the Tribes responded (phone conversations with BLM archaeologist, Nina Trapp, 6/21,23/03). While it is not clear why BLM failed to mention these correspondences in its DIES, courts have made it known that even when an agency attempts to contact interested Native American groups, "a mere request for information is not necessarily sufficient to constitute the 'reasonable effort' section 106 requires." *Pueblo of Sandia v. U.S.*, 50 F.3d 856, 860 (10th Cir. 1995). 31e

The Wyoming SHPO identified at least six Native American groups that may have an interest in the DFPA: The Northern Utes, the Eastern Shoshone, the Comanche, the Northern Arapahoe, the Sioux and the Northern Cheyenne (e-mail correspondence from Fred Chapman, Archaeologist/Native American Liaison, WY SHPO 6/19/03). 31 The discrepancy in lists between the BLM and the SHPO (with the Sioux and Northern Cheyenne being recommended by the SHPO but not contacted) illustrates the mistakes that occur when BLM does not follow proper procedure. Had BLM consulted with the SHPO early in its decision making process, these groups surely would have been contacted. Even if all groups had been sent letters, BLM incorrectly assumes that "contact" is equivalent to "consultation." A letter should be just the first step in BLM's "reasonable and good faith effort" to attempt to include these groups in true consultation. 36 C.F.R. §800.2(c)(ii)(A). 31f

The DEIS has additional problems under NHPA. Pursuant to §110 of NHPA, BLM must "establish...a preservation program for the identification, evaluation and nomination to the National Register of Historic Places [NRHP]...." 16 U.S.C. §470h-2(a). 31g BLM has identified 900 sites within the DFPA; however, 56% of these sites remain unevaluated. DEIS at 3-81. The 900 sites represent an inventory of only 5% of the total project area. *Id.* It is unfortunate that given the myriad of undiscovered cultural resources undoubtedly to be found in the DFPA, BLM has chosen to commit most of the DFPA to oil and gas development before it has made a good faith effort to preserve the cultural resources as required by NHPA. 36 C.F.R 800.4(b)(1). 31h It is not possible to adequately assess, let alone avoid or mitigate the adverse effects under 36 C.F.R. 800.5 if the proper baseline information has not been collected. Even though the regulations allow for some phased identification and evaluation for large land areas, the DEIS does not identify a responsible way this will occur. *See* 36 C.F.R. §800.4(b)(2). 31i BLM simply states (again in its "future-hypothetical tense") that "[m]easures *would be taken* to mitigate or minimize adverse effects to historic properties included in or eligible for the [NRHP]." DEIS at 4-97. This is a grossly irresponsible handling of the irreplaceable cultural resources Congress intended to safeguard by the passage of the NHPA. Far from adhering to a preservation program that involves the identification, evaluation and nomination of sites to the NRHP, BLM seems content with the "inventory through bulldozing" approach to cultural resource preservation. At the very least, BLM should act now to ensure that a proper evaluation is accomplished for the over 500 known sites currently unevaluated and implement a responsible identification plan for unknown sites consistent with the policy and mandates of NHPA. 31j

The DFEIS violates Executive Orders 11593, 13007, and 13287

BLM has an obligation to respond to the policy directives in each of these Executive Orders with 32 concerted effort and measurable action. Instead, as evidenced by the DEIS, BLM has chosen to blatantly disregard its responsibilities under these Orders. 32a Executive Order 11593 states that Federal Agencies shall "administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations…[and] initiate measures necessary to direct their policies, plans and programs in such a way that federally owned sites, structures, and objects of historical, architectural or archaeological significance are preserved, restored and maintained for the inspiration and benefit of the people…." Executive Order 11593, §1, May 13, 1971. 32b BLM's adherence to this mandate is nowhere reflected in the DEIS. Indeed, BLM's choice to increase oil and gas development through the Proposed Action is a choice not to preserve, restore and maintain the cultural resources of the area, but to breach its duty to act as a steward and 32c trustee of these important sites and artifacts. This is particularly true given BLM's failure to assess the effects of development on the cultural resources by providing inadequate baseline data, 32d providing no sufficient mitigation or monitoring plans for the known and unknown resources and ignoring its consultation and inventory duties under NHPA.

BLM's failure to make a timely and reasonable effort to contact the appropriate Native American tribes disregards Executive Order 13007. 32e This Order requires Federal Agencies to "ensure that reasonable notice is provided of proposed actions or land management policies that may restrict future access to or ceremonial use of, or adversely affect the physical integrity of, sacred sites." Executive Order 13007, §2(a), May 24, 1996. The DEIS makes no mention of BLM's efforts to consult with Native American tribes who may possess some affinity with the area. 32f Not only is this a violation of NHPA, but this inaction also ignores the policy clearly stated in Executive Order 13007. *See* 36 C.F.R. §800.2(c)(2)(ii). The surface disturbing activities inherent in oil and gas development certainly threaten the physical integrity of potentially sacred sites; and as 32g discussed above, BLM's mitigation and monitoring plan is insufficient to address this harm (particularly since 95% of the DFPA remains unsurveyed.)

Executive Order 13287 builds on both previous Orders by encouraging Federal Agencies to 32 "provide leadership in preserving America's heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the Federal Government…" and to "seek partnerships with State and local governments, Indian Tribes, and the private sector to promote local economic development and vitality through the use of historic properties in a manner that contributes to the long-term preservation and productive use of those properties." Executive Order 13287, §§1-2, March 3, 2003. BLM admits that the DFPA has a 32h "high archaeological sensitivity;" however, its treatment of the cultural resources in no way contributes to their long-term preservation. DEIS at S-11. BLM has also not actively sought Native American partnerships, as it has not even begun to meet the basic requisites for Native 32i American consultation. *See* 36 C.F.R. §800.2(c)(2)(ii).

The DFEIS violates the Federal Land Policy and Management Act (FLPMA)

FLPMA mandates that the public lands be managed "under principles of multiple use and sustained yield." 43 U.S.C. §1732(a). The term "multiple use" encompasses both mineral development as well as "natural scenic, scientific and historic values." 43 U.S.C. §1702(c). These uses must be weighed so that resources are managed without "permanent impairment of 33 the productivity of the land and the quality of the environment." *Id.* Moreover, the chosen uses do not have to be ones that "give the greatest economic return." *Id.* BLM's support of the Proposed Action without adequate assessment, evaluation and planning for mitigating and 33a monitoring of the affects to the cultural resources violates its multiple use management policy. 43

U.S.C. §1732(a). Undoubtedly, with so little of the DFPA even surveyed, the choice to allow 33 such extensive development in a relatively untouched landscape will have lasting detrimental effects to the quality of the cultural environment. In addition, by failing to initially survey to avoid adverse impacts to cultural resources and to study and adopt a meaningful mitigation plan, 33b BLM has violated FLPMA's proscription against "unnecessary or undue degradation of the lands." 43 U.S.C. §1732(b).

Water Quality

We are concerned that the Proposed Action will result in serious water quality problems. Water produced as a byproduct of natural gas production is likely to be highly toxic. The BLM notes, 34a "Limited data from the deeper parts of this system indicate TDS concentrations in excess of 10,000 mg/l, which exceeds Wyoming DEQ groundwater standards for livestock." DFEIS at 3-45. Thus, produced water from gas development in the DFPA would be expected to be of very low quality and high toxicity. Since the lining of reserve pits is an optional measure rather than an ironclad standard, we can only assume that significant amounts of this toxic water will in fact leak from reserve pits to enter shallow subsurface aquifers and/or intermittent stream channels, thereby polluting the waterways downstream. And yet the BLM has presented no analysis of the 34b impacts of such leakage. To remedy this problem, the BLM should require that reserve pits be lined in all cases, or, better yet, require that pitless drilling techniques be used so that produced effluent is reinjected as a matter of course.

Magnesium chloride would be used in conjunction with water for dust abatement purposes. DFEIS at 2-33. What are the impacts of the use of magnesium chloride on water quality in downstream waterways that are home to sensitive or Endangered fishes, such as Muddy Creek and the Little Snake River? Certainly this compound will be washed into intermittent waterways 34c and find its way into permanent streams during downpours. The silence of the DFEIS on this issue is a shortcoming that violates NEPA requirements.

The project also inherently entails the possibility that drilling activities will cause cross-contamination of aquifers, as deep, poor-quality waters may leak upward into shallower aquifers that feed wells or springs. The BLM notes,

> "Although there is some downward movement of the water from the shallow surficial units, most of the groundwater movement, if any, is upward from the deeper aquifers to the shallower aquifers. Concerns have been raised for several gas field projects in southwest Wyoming regarding groundwater quality 34 degradation due to the piercing of confining layers and vertical and horizontal migration and mixing of water of various qualities. Data suggesting this is a current problem in the project area are not available. Improperly completed injection wells could be a potential source of contamination between aquifers."

DFEIS at 3-46. Why is there no analysis of the impacts of aquifer cross-contamination through improperly cased production or reinjection wells? What are the odds of such an accident? The 34d BLM must present an analysis of this eventuality and prepare a mitigation plan should it occur.

The BLM's failure to plan the locations of wells, roads, and pipelines once again renders an analysis of impacts impossible, this time for water quality. The BLM admits, "Specific project impacts on waters of the U.S. cannot be accurately assessed since facility locations have not been identified." DFEIS at 4-49. 34e Furthermore, "The magnitude of the impacts to surface water resources would depend on the proximity of the disturbance to the surface channel, slope aspect and gradient, degree and area of soil disturbance, soil character duration of time within which construction activities occur, and the timely implementation of mitigation measures." DFEIS at 4-39. This is a candid admission on the part of the BLM that because the agency does not know precisely where (and how close to waterways, and on what types of soils) surface disturbances will occur, it cannot assess the magnitude of impacts to surface waters. This gross failure is an egregious violation of NEPA, which requires that the agency take a hard look at project impacts, a hard look that depends on the site-specific location of construction activities and production facilities. 34f 34

Soils

The soils in the DFPA are highly susceptible to erosion and degradation as result of human-induced disturbance of the type proposed in the Desolation Flats project. The BLM notes, "Of the 233,542 acres of land within the DFPA, most (154,104.2 acres or 66 percent) fall into a sensitive soils category in regard to topsoil depth and quality, with limitations to roads and facilities construction, rapid to very rapid runoff potential, and severe to very severe win and water erosion potential." DFEIS at 4-40. Some 66% of the DFPA is on soils that are considered "sensitive" or are susceptible to erosion and runoff. DFEIS at 3-25. Furthermore, "Soil crusting also reduces infiltration rates. Most soils in the project area are likely to form a surface crust, particularly if vegetative cover deteriorates." DFEIS at 3-27. "As a result of the project area's slow infiltration rates, steeply sloping surfaces and sparse vegetal cover, runoff potential is very high." DFEIS at 3-36. "Due to the highly erosive nature of the area, relatively high suspended sediment concentrations [in surface waters] are expected." DFEIS at 3-37. Thus, according to BLM's own admission, the DFPA is typified by fragile soil types that are highly susceptible to disturbance. 35

Badland areas are particularly sensitive. This land type covers 11.4% of the DFPA, the second most extensive land type in the project area. DFEIS at 3-29. The BLM notes,

> "Areas such as badlands have a very low reclamation potential with high clay and/or salinity concerns. In addition to these limitations, low annual precipitation and wind and water erosion could make successful reclamation more difficult to attain. Therefore, the overall potential for successfully stabilizing disturbed soils is poor to fair."

DFEIS at 4-34. Due to the sensitivity of this landscape type, badlands must be avoided at all costs. And yet the Acceptable Plan Criteria for Transportation Planning do not include provisions for prohibiting or even avoiding construction activities in badland areas. See DFEIS at A-1. The BLM must present the spatial distribution of badlands topography in the FEIS, and this deficiency in mitigation measures must be rectified. 35a

Revegetation and reclamation is likely to be a source of long-term problems if this project is allowed to go forward. The BLM's own analysis states, "A large portion of the project area would likely experience difficulties during revegetation due to the presence of excess sodium and/or clay in the soil. In addition, the droughty nature of the soils would further limit reclamation potential." DFEIS at 4-34. Furthermore, "These potential adverse impacts of the proposed project could reduce soil productivity, impair successful revegetation, and result in increased erosion potential....Soil erosion is likely to be a primary adverse impact of these project effects." DFEIS at 4-34. Finally, wind erosion is likely to accelerate. According to BLM analysis, "Wind erosion could also be an adverse effect of project development given the dominant sandy texture of the soils in portions of the project area....Chronic and severe wind erosion could occur in limited areas where roads and/or pipelines traverse sandy soil areas." DFEIS at 4-35. The BLM calls for "special efforts to avoid these areas," but fails to identify what these "special measures" entail. Ibid. 35b 35c

The mitigation requirements in the DFEIS are insufficient to prevent widespread damage to soils and long-term revegetation problems. The BLM notes, "Excessive areas of sand, clay, and wetness would be avoided by final siting choices." DFEIS at 4-34. What sand, clay, or salt content is considered "excessive" for the purposes of this project? Numerical standards are needed, because if these criteria are left to the judgment of the Operators, it is likely that sensitive soils will be given short shrift. In addition, what will happen when areas of excessive sand clay, or wetness are too large to be mitigated by "final siting choices?" One would expect that some areas of sensitive soils are quite extensive, and that major, rather than minor, shifts of surface disturbance will be needed to avoid them. In order to mitigate properly for such large-scale occurrences of sensitive soils, these should be mapped and presented in the Final EIS as areas where surface disturbance will not be permitted. This work may have been partially completed in the DFEIS in Figure 3-8 (mapping soils of moderate-high and high risk of erosion) and in Figure 3-1 (showing deposits of dune sand and loess, although dune sand would need to be further distinguished from loess). 35d 35e 35f 35g

Avoidance measures for steep and/or erodible slopes in the DFEIS are insufficient. The mitigation provided is not watertight: "Placement of project facilities would need to avoid [soils with high water tables and/or surface inundation]. In order to preclude significant impacts, roads, drill/well sites, and pipelines should not be placed in areas with steep slopes greater than 25 percent and in areas with badland soils." DFEIS at 4-35. In the Acceptable Plan Criteria, construction would "Avoid slopes in excess of 25 percent." DFEIS at A-3. But these provisions do not outright proscribe construction on such steep slopes, which is the appropriate measure to prevent unnecessary and undue degradation of resources. But would project facilities *in fact* avoid saturated soils, badlands, and steep slopes? The DFEIS offers no guarantees. The BLM further states, "Although the majority of the project area is classified as sensitive soil and such areas cannot be totally avoided, particular attention would be given to avoiding steep slopes greater than 25%, badlands, sandy soils, and soils with high water tables and/or which are subject to inundation and thus, minimize the chance of a significant impact." DFEIS at 4-47. First of all, the assertion that sensitive soils "cannot be totally avoided" is absolutely false; the BLM has the unequivocal authority to require as a Condition of Approval on APDs to require that surface disturbances not occur on these soils. Secondly, "particular attention" needs to be defined in terms of ironclad standards, not just vague and vacuous promises with no guarantees. 35h 35 35i

The BLM's discussion of Alternative A sheds further light on the proposed action: "As discussed previously, it would be very difficult to totally avoid all sensitive soil areas. Slopes greater than 25 percent, badland soils, and sandy soils should be totally avoided. Therefore, where the other sensitive soils cannot be avoided, special construction techniques and mitigation measures should be applied to reduce the probability of significant soils impacts." DFEIS at 4-37. In what cases will the BLM determine that sensitive soils cannot be avoided? Certainly, with the availability and capabilities of directional drilling, all sensitive soils in the project area should be avoidable by moving drilling facilities away from them. 35j

With soils, just as with wildlife, the extent of impacts cannot be determined without knowing exactly where the wells, roads, and pipelines are going to be constructed. BLM admits as much: "Since specific sites have not been identified for wells, pipelines, and roads, Table 3-11 indicates the likelihood of encountering soil limitations that would require special attention." DFEIS at 4-41. Once again, the discussion of Alternative A sheds further light on the degree to which the 35k

BLM is able to evaluate impacts under the Proposed Action: "The same types of soils impacts 35
would occur under this alternative as with the Proposed Action. The amount and duration of such 35l
impacts would depend on the location of the wells and access roads." DFEIS at 4-37. Thus, the
BLM cannot offer any analysis on effects to soils and erosion beyond gross estimates, a fact that
violates the NEPA requirements to make a thorough evaluation of impacts.

The DFEIS also presents inadequate standards with regard to conserving and replacing topsoil
during construction and reclamation activities. Retention of topsoil for reclamation purposes is 35m
important, because availability of mycorrhizal propagules in soil used for reclamation can
influence the success of sagebrush reestablishment (Lyford 1995). Topsoil should be reserved
during every surface-disturbing activity, so that it can be replaced during the reclamation process.
The Acceptable Plan Criteria require only, "Salvage and the subsequent replacement of topsoil
whenever possible..." DFEIS at A-3, emphasis added. It is hard to imagine a case when topsoil
salvage and replacement would not be possible, and thus the burden is upon the BLM to elucidate
the circumstances under which topsoil replacement would not be mandated, and if there are no
such cases, the language in the FEIS should be amended to a non-discretionary requirement. 35n

Biological Soil Crusts

Biological soil crusts are important to soils because they fix nitrogen into the soil, stabilize the
soil surface, reduce erosion and increase water retention and infiltration (Snyder and Wullstein
1973). According to Rychert et al. (1978), "Blue-green algae crusts and/or blue-green
algae-lichen crusts can fix significant amounts of atmospheric nitrogen in desert soils, and are
probably responsible for a major input of nitrogen into desert ecosystems." This is particularly
important, because, as the BLM notes, "Soils typically have adequate potassium for plant growth,
while nitrogen and phosphorus may be limiting." DFEIS at 3-27. "Due to low organic matter in
the soil and lack of geological material that would enhance fertility, all soils are assumed to be 36
deficient in nitrogen. Potassium is assumed to be adequate." DFEIS at 3-28. For desert shrub
vegetation types, "[c]ryptogamic crusts are also present on the surface of the soil." DFEIS at
3-47. What measures will the BLM require to promote the re-establishment of biological soil
crusts following disturbance and reclamation? Are there mitigation measures that will enhance
the possibility of biological soil crust disturbance following recovery? And what is the timeframe 36a
in which biological soil crusts can be expected to recover following abandonment and 36b
reclamation of roads and well sites? All of these questions must be adequately addressed in the
FEIS. 36c

Reclamation

We are concerned that many of the scars that occur under the Proposed Action will take decades
to heal even after reclamation efforts, and that some of these impacts may never disappear.
According to the BLM, "Reclamation potential is generally poor to moderate within the DFPA, 37a
with some limited areas of good potential." DFEIS at 3-28.The BLM assumes "a reasonable
success rate of 60% for reclamation..." DFEIS at 4-35. This statement suggests that 40% of
disturbed areas will never be successfully reclaimed.

37 Currently disturbed areas make up 0.6% of the DFPA, and "[t]hese areas have altered vegetative
structure and composition and, in some cases, are actively eroding." DFEIS at 3-48. This is an
indication that current management practices for oil and gas development are not succeeding in
preventing significant impacts to other resources during the life of the project.

Directional Drilling

38

In the DFEIS, the BLM has failed to give detailed consideration and analysis to a directional
drilling alternative. DFEIS at 2-43. This proposal was rejected on the basis of potentially 38a
prohibitive costs to the natural gas operators. Looking only at these costs is incomplete. The
added costs associated with directional drilling will be mitigated by the benefits to the public in
terms of avoided environmental impacts and impacts on hunting and other recreation. These
benefits need to be estimated and included and directional drilling should be re-considered with
more complete information. We have attached a report, *Drilling Smarter: Using Directional* 38b
Drilling to Reduce Oil and Gas Impacts in the Intermountain West, to provide a detailed technical
basis, founded on the petroleum engineering literature produced largely by the oil and gas
industry itself, which concludes that directional drilling is feasible and economical in virtually
any geologic setting, including the setting presented by the DFPA. We incorporate this report and
its conclusions in full into these comments, and expect the BLM to respond to it as the agency 38c
would to any other public comment in the NEPA process.

The BLM admits that directional drilling is feasible for the project area. According to BLM, "The DFPA Operators feel that in certain circumstances, where the need arises to vacate the drilling of a vertical well, a directional (i.e., directional, horizontal, diagonal) well could be utilized for resource protection." DFEIS at 2-43. We wholeheartedly agree with this statement, and would like to call attention to some specific "resource protection" issues which should automatically trigger the use of directional drilling technology:

- Areas within 3 miles of a sage grouse lek;
- Areas of Critical Environmental Concern, including the MVMA, proposed Dad Colony Prairie Dog ACEC, proposed Mexican Flats Plover ACEC, and proposed Powder Rim ACEC;
- Areas within 2 miles of an active or historic ferruginous hawk nest or 1 mile of the 38
  active or historic nests of other raptor species;
- Areas on floodplains of intermittent and permanent streams;

Furthermore, many directional wells have already been drilled in the area. Of the 17 diagonal
wells drilled in the Wamsutter Field between 1994-1999, horizontal displacement ranged from
250-2450 feet. DFEIS at 2-43. According to BLM's own analysis, "No completion problems
were experienced with the S-shaped wellbores, therefore, this configuration was accepted as the
preferred method of directionally drilling in the Wamsutter Field." DFEIS at 2-43. The DFEIS
also ignores the possibility of slant-hole completions, which also do not experience difficulties 38d
from the standpoint of binding up the drilling string at bends in the wellbore.

The BLM's analysis of the environmental advantages of directional drilling is flawed. The BLM
makes an unsupported assertion: "Multiple wells per pad do not translate into a direct reduction 38e
of surface disturbance," due to the increased number of condensate tanks and increased
dehydrator and separator size. DFEIS at 2-43. While we agree that an individual wellpad
supporting a number of directional wells is larger that the well pad for a single vertical well, it is
not apparent that the overall surface disturbance for, say, 5 clustered wells on a single pad would
not be substantially less than 5 separate pads with all of their associated access roads, pipelines,
and other disturbances. The BLM notes that as many as eight wells can be drilled on a single pad.
DFEIS at 2-14. This would obviate the need for a substantial network of roads and pipelines as
the single pad with 8 wells could be placed immediately adjacent to an existing high-standard
road.

The BLM argues that directional drilling should not be required due to potentially increased cists to Operators. Experiments in the Wamsutter Field found that directionally drilling 4 wells from a single pad cost 15-20% more than drilling 4 wells on separate pads. DFEIS at 2-44. Presumably, these wells were diagonal or S-turn, as they did not yield a greater product production than the vertical wells. Nonetheless, a 15-20% drilling cost increase is a small price to pay to gain the reduction in habitat fragmentation from such clustering; indeed, it is the least the BLM could require to mitigate for the habitat fragmentation inherent to the project. If the BLM is to live up to its multiple-use mandate, it must require Operators to spend the extra money to achieve substantial reductions in environmental impacts as a cost of doing business on multiple-use public lands. 38f

The DFEIS also reports arbitrary and incorrect limits on the horizontal displacement achievable in the DFPA. The BLM asserts that the maximum horizontal displacement of directional wells using "the same rig equipment capabilities and the same casing program" as in Wamsutter would be 6,200 feet due to mechanical limits of the drill pipe. DFEIS at 2-44. Why would the BLM artificially constrain directional drilling in the DFPA based upon drilling rigs used in the Wamsutter Field? This assumption is arbitrary and capricious. In fact, the entire range of well technologies is available to the Operators in the DFPA; they are able to truck in larger/more technologically advanced drilling rigs capable of reaching much greater horizontal displacements if the BLM's development standards required them to do so. 38g

The BLM makes the argument that because directional drilling costs are higher, some marginal wells may not be drilled, some leases would be undeveloped, and thus less gas would be produced. DFEIS at 2-44. We agree with this assessment, but it does not indicate a problem. Gas prices are market-driven; as supplies increase, the price goes down, rendering some plays marginal. Low prices which would reduce the number of wells in the DFPA under directional drilling are indicative of a gas glut, when the nation does not need more natural gas. On the other hand, prices are driven higher when the national gas supply drops (and additional production is helpful), and under these conditions both directional and vertical drilling would be economically feasible. Thus, the overall public interest favors directional drilling, under which gas production is optimized when supplies are tighter, the same amount of gas ultimately gets to market, only when it is needed rather than during periods of glut, and the environmental impacts are simultaneously reduced. The argument that directional drilling reduces gas production is a false one over the long term, and the argument that the public interest suffers when marginal plays go undeveloped during periods of glut is even more specious and unsupportable. 38 38h

The BLM must therefore analyze at least one alternative that mandates the use of directional drilling to cluster wells and reduce impacts as well as to avoid surface disturbance to sensitive landscapes (plover concentration areas, big game crucial ranges, plover nesting concentration areas, prairie dog colonies, 2-mile buffers for sage grouse leks and 1-mile buffers for raptor nests), and should select this alternative for implementation in the Desolation Flats project. 38i

Pitless Drilling

One method that is universally applicable to reduce drilling impacts is "pitless drilling," entailing closed-loop systems that recycle drilling mud rather than dumping it into open pits. In addition to the elimination of toxic waste pits on the surface, this method reduces wellfield truck traffic by up to 75%, reduces water consumption by 80%, and is actually 8% less costly than constructing and maintaining a reserve pit (Longwell and Hertzler 1997). This method has proven successful in Alaska (Phillips Petroleum 2002) and Colorado (Longwell and Hertzler 1997), and is planned for the Sakhalin I project in Russia (Sumrow 2002). Due to its environmental advantage, pitless drilling should be mandated as a standard requirement for drilling operations under the Desolation Flats project. 39 39a

Each well pad under the proposed project would be accompanied by a reserve pit 10 feet deep, and on average 160x140' in size. See Figure 2-2, DFEIS at 2-13, and Figure 2-3, DFEIS at 2-15. Some of these reserve pits would be unlined, in cases where water-based drilling muds are used. DFEIS at 2-12. Sheep-tight fencing would surround reserve pits (DFEIS at 2-12). Netting could be required by BLM on a case-by-case basis, but is not an ironclad requirement. DFEIS at 2-14. And yet elsewhere, BLM states that "all reserve pits and other pits and areas that contain potentially hazardous materials would be fenced and netted." DFEIS at 2-39. Ultimately, drilling muds would simply be buried on-site, and allowed to remain in the ground. DFEIS at 2-14. All of these impacts are completely unnecessary in light of the availability of "pitless drilling" technology, which recycles drilling muds through the systems and does not require the deposition of toxic waste in surface reserve pits. 39 39b

In the proposed action, produced water would be either reinjected, evaporated from lined or unlined ponds, or trucked to a disposal facility. DFEIS at 2-17. Water produced as a byproduct of natural gas production is likely to be highly toxic. The BLM notes, "Limited data from the deeper parts of this system indicate TDS concentrations in excess of 10,000 mg/l, which exceeds Wyoming DEQ groundwater standards for livestock." DFEIS at 3-45. A nearby disposal facility east of North Flattop Mountain, run by Devon Energy, utilizes sprayers to mist produced water into the air for evaporation. Waters of this low quality and high TDS content, if sprayed into the air for evaporative purposes, would result in a rain of toxic salts and heavy metals on nearby soils which would likely sterilize the soils, kill off the vegetation, and ultimately drain off into Muddy Creek or the Little Snake River during heavy rainfalls. The BLM could avoid all of these impacts through requiring Operators to employ pitless drilling techniques. 39c

Traffic

BLM in several places commits to low speed limits to prevent roadkill of wildlife and danger to recreational users. See, e.g., DFEIS at 2-39, 2-40. How will such speed limits be enforced? Is there any hope of compliance without a credible enforcement presence? 40

Coalbed Methane

The BLM notes, "Coal resources are not currently economically minable, but potential exists for coalbed methane development." DFEIS at 3-3. The project description does not encompass the drilling of coalbed methane (CBM) wells, and the BLM has not presented a detailed analysis of the special impacts of CBM development which are unique and quite different from the impacts of conventional gas development. We therefore conclude that CBM wells will not be permitted under the DFEIS, as adequate NEPA analysis has not been performed in this document to support CBM exploration and development. 41

Floodplains

In Table 3-1, BLM notes that for floodplains, there are "None present" and the issue is not addressed in the text of the EIS. DFEIS at 3-1. And yet when describing the topography of the DFPA, the BLM notes, "There are nearly level to gently sloping floodplains and alluvial terraces..." DFEIS at 3-24. Furthermore, "Stratified sands and gravels are present in riverwash associated with streambeds and floodplains..." DFEIS at 3-25. And "Floodplains, alluvial terraces, seep areas, streambeds, and bottomlands have an average water table depth less than six feet." DFEIS at 3-27. Certainly, there are numerous floodplains in the DFPA associated with intermittent watercourses distributed throughout the DFPA. These floodplains must not be the site 42 42a of construction or drilling activities in accordance with Executive Order 11990. 42

42a The DFEIS provides, "Impacts would be considered significant if the following were to occur...Non-compliance with EO 11990, Protection of Floodplains." DFEIS at 4-39. This Executive Order is not discretionary, and thus the BLM should require that all surface disturbing activities comply with its provisions, without exception.

AIR QUALITY

When combined with existing, permitted, and reasonably foreseeable future emission sources, the Desolation Flats Natural Gas Development Project will result in a significant cumulative increase in regional emissions of air pollutants which poses a significant threat to air quality related values throughout Wyoming, as well as in northern Colorado. Despite all of the claims to the contrary, the DFEIS systematically underestimates the air quality and visibility impacts associated with this project and as a result fails to meet the basic "hard look" requirements mandated by the National Environmental Policy Act. The Desolation Flats DEIS also fails to comply with BLM's non-discretionary duty under the Federal Land Policy and Management Act (FLPMA) to "provide for compliance with applicable pollution control laws, including state and federal air ...pollution standards or implementation plans[.] 43 USC 1712(c)(8), and to "require compliance with air and water quality standards established pursuant to applicable Federal and State law." 43 CFR § 2920.7

Contrary to BLM's assertions, WOC and other environmental groups did not endorse or otherwise indicate acceptance of the Air Quality Assessment Protocol.

The DFEIS (at 4-7) implies that the Air Quality Assessment Protocol is acceptable to "environmental groups including Wyoming Outdoor Council, Powder River Basin Resource Council, and Northern Plains Resource Council." This is patently not true. 43 First, as BLM now concedes, NPRC and PRBRC did not comment on the air quality protocol or, indeed, on any other aspect of this project. 43a We have been informed that the statement was included in the DEIS by mistake. We appreciate the fact that BLM has promised to correct the record to show that these groups did not endorse or comment on the methodology selected to analyze air quality impacts. (Personal communication with Susan Caplan, BLM physical scientist, June 27, 2003).

Second, although WOC did attend a single meeting convened by BLM on November 28, 2000, to discuss air quality protocol issues, and did submit scoping comments, we reject any implication that our limited participation "ensur[ed] that the assessment methodology was technically sound and acceptable to all parties[]"(DFEIS at 4-7), or resulted in "consensus" being reached. DFEIS at 4-8. We appreciate the BLM's willingness to acknowledge these statements were improperly included in the DFEIS and it's efforts to correct the mistake in the final EIS. Id.

The DFEIS fails to include all sensitive receptors potentially impacted by this and other developments included (or that should have been included) in the cumulative effects analysis.

43b Table 4-2 lists the "sensitive areas" analyzed in the DFEIS. Conspicuously absent are Teton and Washakie wilderness areas, and Grand Teton National Park, all of which are mandatory Class I areas, and all or portions of which are included in the modeling domain (Figure 4-1). Because NEPA requires a hard look at all potential direct, indirect and cumulative effects of a proposal, the far field analysis should have included these sensitive receptors. The need to do so is particularly urgent because other recent analyses (see, e.g., Powder River Basin Oil and Gas Project EIS, Pinedale Anticline EIS) reveal significant cumulative impacts to air quality related values in these areas, to which any addition of pollutants from the Desolation Flats project would increase and further exacerbate the already significant impacts.

The DFEIS fails to include all reasonably foreseeable future emission sources. 43c

The DFEIS states (at 5-2) that "[t]he Proposed Action incorporates all reasonably foreseeable *natural gas activity* within the project area based on current knowledge of the area's geology and natural gas drilling and development technology." (emphasis added). First, a scientifically defensible and legally adequate environmental disclosure requires consideration of *all* reasonably foreseeable emission sources, not just those related to oil and gas activities. The EIS should be revised to include an expanded inventory that lists all expected increases in emissions from both mobile and stationary sources in the study area2, including projected increases in railroad and highway traffic, as well as mines, power plants, and other emission sources.

Second, with respect to reasonably foreseeable future *natural gas activity*, the DEIS fails to 43
include many significant proposed projects which have either been approved or are presently undergoing NEPA review, including but not limited to:

* Powder River Basin Oil and Gas Development Project Record of Decision (WY-070-02-065), 51,000 CBM wells (April 2003);
* South Piney CBM Project - 210 wells, Sublette County, (68 Fed. Reg 4513, January 29, 2003);
* EnCana, Inc's Jonah Field Infill Drilling Project, Sublette County, 1,250 wells (68 Fed. Reg. 12100, March 13, 2003);
* Seminoe Road CBM Project, 1,240 wells, Carbon County, (68 Fed.Reg 12101, March 13, 2003);
* Atlantic Rim CBM Project, 3,880 wells, Carbon County, (66 Fed. Reg. 33975, June 26, 2001);
* Wind River Natural Gas Development Project, Fremont County, 325 wells (being added to existing field consisting of 160 wells never previously analyzed in NEPA document) (68 Fed. Reg 3543, January 24, 2003);
* Big Porcupine CBM Project, TBNG, 453 CBM wells, scoping closed, EA or EIS pending;
* Kennedy Oil Pilot Exploratory CBM Project, 20 wells, Rock Springs Field Office, Sweetwater County;
* Copper Ridge Shallow Gas Project, 89 wells, Rock Springs Field Office, scoping ended November 15, 2002, EA pending;
* Little Monument Unit Natural Gas Project, 31 additional wells in the Fontenelle National

Gas Infill Drilling Project area in Sweetwater County.

Particularly curious is BLM's failure to evaluate the cumulative effects of the Atlantic Rim CBM project which, unlike the others listed above, is at least identified in the Desolation Flats DEIS at 5-3. The explanation for not including emissions from the Atlantic Rim Project is untenable. For purposes of NEPA compliance, the project long ago reached the stage of a "proposal" (40 CFR § 1508.23) the cumulative effects of which must be included in this analysis. How is it that a proposed project which itself is the subject of a pending federal EIS is nonetheless deemed not reasonably foreseeable enough to be included in a cumulative effects analysis in an EIS being prepared for a similar action in the same general area? BLM's ridiculous rationale for not including consideration of this project inevitably guarantees a backwards looking analysis that is totally contrary to the whole point of NEPA's cumulative effects analysis requirements. While we acknowledge NEPA's requirement to consider "reasonably foreseeable future action" shouldn't necessitate "crystal ball inquiry," by the same token it most certainly doesn't mandate an absolute "beyond a reasonable doubt" standard the BLM seems to be insisting on. Surely, once a project has passed a conceptual stage to the realm of a concrete proposal that independently triggers an EIS or EA, the CEQ's NEPA regulations require that it be considered in a cumulative effects analysis. To do otherwise defies common sense and makes a mockery of the NEPA process. 43

The stated rationale for not including the Atlantic Rim natural gas project along with others that have been proposed is even more absurd when one considers the double standard being applied. When BLM adopts or revises land use plans, environmental impact analysis is based on a reasonably foreseeable development scenario (RFD) that projects a level of development some ten to fifteen years into the future. For obvious reasons, this projection is almost always made in the complete or near absence of specific development proposals thus necessarily requiring a degree of speculation or "guess work," yet it is the accepted method under BLM's supplemental program guidance and other Interior Department policies. In this case, BLM has specific knowledge of numerous concrete and well-defined oil and gas development proposals, some of which are in the same county, yet it chooses to pretend they don't exist. Frankly, the approach is ludicrous.

The DEIS fails to include emission sources located outside the study area that will impact Class I sensitive receptors listed in the DFEIS. 43d

One of the most glaring and problematic deficiencies in the DFEIS's air quality analysis is its failure to consider existing and reasonably foreseeable future emissions from coal bed methane (CBM) and other industrial (i.e., mineral and energy) developments in the Powder River Basin. Although the DEIS admits that "the CIA area for air quulity effects is regional in nature; therefore the scope of activities considered is necessarily broad" (DFEIS at 5-1) it nonetheless ignores a significant new source of regional emissions: coal bed methane development in the Powder River Basin. As the BLM knows, the Powder River Basin Oil and Gas Project FEIS (January 2003) discloses significant direct and cumulative impacts to air quality in western Wyoming, including significant impacts to air quality related values in several Class I areas that are also affected by this project, including the Bridger and Fitzpatrick wildernesses. See Final Environmental Impact Statement and Proposed Plan Amendment for the Powder River Basin Oil and Gas Project, Volume 2, Chapter 4 (discussion of cumulative impacts beginning at page 4-386); and Volume 3, Appendix F – Air Quality Technical Support Document (showing significant visibility impacts in Bridger, Fitzpatrick and Washakie Wilderness areas, among others). As a result, the DFEIS seriously underestimates the potential cumulative air quality impacts by ignoring emissions from existing and proposed industrial developments in the Powder River Basin. Had those emissions been included in this DEIS, projected cumulative impacts to air quality related values in western Wyoming would be much greater than described, potentially exceeding applicable ambient air quality standards, PSD increments, and established significance criteria.

The BLM fails to ensure compliance with air pollution standards. 43e

The BLM is required under NEPA to thoroughly analyze whether implementation of the Desolation Flats Project, together with other existing and reasonably foreseeable future actions, will violate state or federal ambient air quality standards or exceed increments established for Class I and II areas. Specifically, to satisfy NEPA's requirements, the DFEIS must contain sufficient information to enable decision-makers to determine whether existing, permitted and reasonably foreseeable industrial and energy development in Wyoming will comply with ambient air quality standards and Prevention of Significant Deterioration (PSD) increments established under the Clean Air Act, 42 U.S.C. §§ 7401 *et seq*. This analysis is also required to ensure that BLM complies with Federal Land Policy Management Act regulations requiring that "each land use authorization shall ...(3) Require compliance with air and water quality standards established pursuant to applicable Federal and State law." 43 CFR § 2920.7.

NEPA regulations also require that an EIS discuss the "possible conflicts between a proposed action and the objectives of Federal, regional, State and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned." 40 C.F.R. § 1502.16(c); *see also* 40 C.F.R. § 1502(d) (requiring discussion of "any inconsistency with any approved State or local plan and laws (whether or not federally sanctioned)"). In addition, an EIS must discuss the "significance" of the environmental effects of a proposed action, 40 C.F.R. § 1502.16(a) and (b) – a term that requires consideration of "[w]hether the action threatens a violation of Federal State or local law or requirements imposed for protection of the environment." *Id.* § 1508.27(b)(10). These requirements are reinforced by Section 202(c) of FLPMA, the BLM's "organic act" and substantive law governing activities on BLM-administered lands, which requires the agency to "provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards or implementation plans ..." 43 U.S.C. § 1712(c)(8). Unfortunately, as explained in detail below, the "analysis" in this DEIS does not even come close to meeting these basic requirements. 43

1) The DEIS' Failure to Conduct Complete Increment Consumption Analysis Violates FLPMA and NEPA.

The DFEIS acknowledges that the significance criteria for potential air quality impacts includes a violation of the National, Colorado and Wyoming Ambient Air Quality Standards and any exceedance of the PSD increments for Class I or Class II areas. DFEIS at 4-8. Yet, ironically, it also acknowledges that the air quality assessment fails to include a complete increment consumption analysis sufficient to determine whether increments have been exceeded: "It should be noted that any comparisons made to the PSD Class I and II increments during this analysis are intended to evaluate an 'impact threshold' and do not represent a regulatory PSD increment consumption analysis. The determination of PSD increment consumption is a state air quality regulatory agency responsibility with oversight from the [EPA]. DFEIS at 3-20.

Using this non-regulatory approach, the DFEIS nevertheless concludes that PSD Class I and Class II increments will not exceeded by project-generated or cumulative emissions. See, e.g.,

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Executive Summary at S-16; Table 4-6; and Table 5-4. The BLM arrives at this faulty conclusion because : (1) compliance with PSD increments is evaluated based on inappropriate baselines; (2) as mentioned previously, significant direct and cumulative emissions from reasonably foreseeable future projects were not considered. No reason is given for the failure to perform a proper increment consumption analysis as part of the EIS.

a) Inappropriate Baselines.

The essential element of an increment consumption analysis is a determination of the extent to which the allowable increment has been consumed since the baseline was set for the area affected by the proposed projects. The DFEIS acknowledges that the significance criteria for potential air quality impacts include PSD increments, which limit the incremental increase of NO_2, SO_2, PM 10 and $PM_{2.5}$ concentrations above legally defined baseline limits. Nevertheless, the DFEIS proceeds to analyze potential air quality impacts against arbitrary baselines that do not conform with the requirements of the Clean Air Act. Under the Clean Air Act, PSD increments are "maximum allowable increases *over baseline concentrations*." 42 U.S.C. § 7473(b) (emphasis added). The Act defines "baseline concentration" as:

> with respect to a pollutant, the ambient concentration levels which exist at the time of the *first* application for a permit in an area subject to this part, based on air quality data available in the [EPA] or State air pollution control agency and on such monitoring data as the permit applicant is required to submit. . . . *Emissions of sulfur oxides and particulate matter from any major emitting facility on which construction commenced after January 6, 1975, shall not be included in the baseline and shall be counted against the maximum allowable increases in pollutant concentrations established under this part*. 43

42 U.S.C. § 7479(4) (emphasis added); *see also* 40 C.F.R. § 52.21(b)(13)(i). State and federal implementation plans must contain measures assuring that these "maximum allowable increases *over baseline concentrations* . . . shall not be exceeded." 42 U.S.C. § 7473(a) (emphasis added).

The BLM's analysis of the direct and cumulative effects on Class I and Class II increments failed to satisfy the definition of "baseline concentration" prescribed by the Clean Air Act. Because the DFEIS does not conduct a regulatory analysis, it does not identify the minor source baseline dates for any of the pollutants in either Wyoming or Colorado. (The NO_2 baseline area in Wyoming is Statewide. The minor source baseline date was set February 28, 1988, soon after the February 8,1988, trigger date established by EPA. See 53 Fed. Reg. 40656 (October 17, 1988). For particulate matter, the trigger date was in 1978, and the minor source baseline dates were set soon thereafter in both states). Thus all new sources, both major and minor stationary sources, as well as additional mobile source emissions, consumed the allowable increment after those dates.

Rather than assessing the cumulative impact on the increments using the baseline concentrations required by the Act and EPA regulations, BLM used the pollutant concentrations existing in 1995 as the baseline for its air quality analysis. While this analytical approach makes sense for the purpose of determining compliance with absolute ceilings such as the National Ambient Air Quality Standards, it cannot be used to assess the increment ("maximum allowable increases over baseline concentrations") consumed after the establishment of baselines under the Clean Air Act, all of which were established well before 1995. BLM has done exactly what NEPA prohibits. By using the 1995 period as a baseline for the purposes of its analysis of potential increment violations, instead of the much earlier baseline periods required by the Clean Air Act and EPA regulations, the DEIS provides a misleading analysis that minimizes the magnitude of the threat to PSD increments.

The increment consumption analysis performed for the DFEIS, however, considered new emissions as beginning with the permitted and "reasonably foreseeable" new sources after July 1995. See DFEIS at 5-6 ("Emissions for sources operating before 1995 were assumed to be included in the background monitoring data."). Because, as the DFEIS states, "[t]he estimated emissions from sources permitted between 1995 to 2001, along with the changes in producing well emissions and future RFD emissions were added to the Desolation Flats emissions to obtain the cumulative emissions inventory[]" (DEIS at 5-6), the DFEIS' cumulative PSD increment consumption analysis fails to take into account increments consumed by emissions during the period beginning with the regulatory baseline dates and ending in 1995.

Given the level of industrial development in Wyoming since the establishment of the regulatory baselines, including major sources such as power plants and gas treatment facilities, the sources omitted from the consumption analysis are likely significant, and major consumers of increment. Indeed, the sources included in the inventory for this DEIS quite likely account for less than half of the emissions added into the modeling domain during the period since the regulatory baselines were set. By considering only the sources permitted and expected to be permitted after 1995, the consumption of increment that has occurred from earlier development is not counted in the current increment calculations. All emission sources (major or minor, stationary or mobile) that may affect Wyoming's Class I area -- whether within or outside the study area -- must be included in the modeling analysis to understand the consequences of new development for full increment consumption in the Class I areas. 43

This has potentially significant consequences for the EIS because Class I and Class II increments have already been partially consumed, an important point not taken into account in the analysis. The failure to include a comprehensive increment consumption analysis renders the DFEIS inadequate because without such analysis it is impossible to determine whether increments have been consumed by prior development, or whether the proposed actions will cause the increments to be exceeded. Thus the current analysis is seriously deficient with respect to characterizing the magnitude of increment consumption that must be identified before the BLM may issue a decision approving the proposed action. Without a proper "regulatory" increment consumption analysis, the BLM is unable to demonstrate compliance with state and federal air quality standards.

b) Omission of Reasonably Foreseeable Future Projects.

The BLM's unexplained exclusion of several reasonably foreseeable future actions from its consideration of cumulative air quality impacts substantially skewed the analysis of air quality effects on Wyoming and Colorado PSD increments, ambient air quality standards, visibility goals in Class I area, and impacts to ANC at sensitive alpine lakes. By BLM's own admission, the DFEIS fails to include air emissions from the 3,880-well Atlantic Rim project, as well as emissions from a large number of other industrial developments proposed in Wyoming, including but not limited to nearly a dozen other natural gas projects totaling over 50,000 wells.

Taken together, these projects will be major sources of air emissions with significant impacts upon PSD increments, ambient air quality, visibility and ANC at sensitive lakes. BLM's insupportable decision to ignore these otherwise "reasonably foreseeable" future projects from consideration in its analysis of the cumulative effects on air quality results in an analysis that substantially underestimates the cumulative air quality impacts of this Project. Accordingly, because the DFEIS fails to alert decision-makers and the public to the significance of the reasonably foreseeable impacts to the PSD Class I and Class II increments, a supplemental draft EIS containing the proper increment consumption analysis should be prepared.

2) BLM may not rely on State regulatory programs to satisfy its independent obligations under FLPMA and NEPA to assess air quality impacts and compliance with air quality standards.

The DFEIS notes (at 5-1) that "this discussion of potential cumulative impacts assumes the successful implementation of the environmental protection and mitigation measures ... as well as compliance with ... all applicable federal, state, and local regulations and permit requirements."

Reliance on the State's regulatory program cannot be substituted for the affirmative duty imposed on BLM to provide for compliance with NAAQS and the increments, both because FLPMA requires that BLM comply with state standards, and because BLM has no assurance that the State will perform a complete increment consumption analysis before the proposed actions are substantially underway and contributing to additional emissions that may add to further exceedances of increments or cause increments to be violated. For these reasons, the EIS must include the increment consumption analysis so that BLM's obligation to develop and adopt sufficient mitigation measures may be performed as part of the project NEPA analyses and adopted as conditions in the ROD. 43

BLM contends that it need not conduct a "regulatory" increment consumption analysis because "PSD increment consumption analyses are applied to large industrial sources and are solely the responsibility of the State and the Environmental Protection Agency." DFEIS at 4-8.
The fact that the State has a legal responsibility to protect increments does not mean that BLM is thereby relieved of its independent responsibility under FLPMA to "provide for compliance with pollution standards," or its obligation under NEPA to fully describe the cumulative impacts of the proposed projects and identify mitigation measures to prevent adverse impacts. Simply put, BLM's obligations to assess and provide for compliance with PSD increments cannot be delegated to a State agency.

Emissions from the projects under review are associated with a large number of small to medium sized sources that are not expected to exceed the threshold for "major stationary source." The Wyoming PSD SIP only requires that major sources perform an increment consumption analysis and an assessment of visibility impairment in Class I areas. See Chapter 6, Permitting Requirements, Section 4 PSD. The provisions governing the permitting of minor sources only require that the applicant demonstrate that "the proposed facility will not cause significant deterioration of existing ambient air quality in the Region as defined by any Wyoming standard or regulation that might address significant deterioration." Chapter 6, Section 2(c)(iii). This provision does not explain what standard, if any, applies, nor does it describe the "region" that must be considered, whether emissions from the minor source must be considered together with emissions from other permitted and reasonably anticipated sources, or what pollutants are to be considered. Moreover, in a recent letter to WOC, the DEQ's Air Quality Administrator has indicated that the state has never performed any increment consumption analysis to determine if the Wyoming PSD SIP is being complied with." See Letter from Dan Olson, Administrator, DEQ/AQD to Dan Heilig, Director, WOC, dated May 19, 2003, appended hereto as Attachment 4.

NEPA and FLPMA require a more thorough discussion of mitigation measures to prevent air quality violations, exceedance of increments and adverse impacts to AQRV. 43f

The CEQ regulations interpreting NEPA require that the EIS identify the "means to mitigate adverse environmental impacts," 40 CFR 1502.16(h), and "include appropriate mitigation measures already included in the proposed action or alternatives." 40 CFR 1502.14(f). "Mitigation" is defined to include "(a) avoiding the impact altogether by not taking a certain action," and "(b) minimizing impacts by limiting the degree or magnitude of the action." 40 CFR §1508.20. Where federal or state environmental standards are shown to be adversely affected by the proposed action (e.g., cumulative visibility impacts in the Bridger Wilderness), the NEPA review must at least identify sufficient mitigation measures that will prevent the adverse impact. This obligation is reinforced by FLPMA which establishes the obligation to "provide for compliance with pollution standards." Thus the DFEIS is inadequate both because it fails to describe the full magnitude of the exceedances of increments that will result from adding emissions from the proposed project and other reasonably foreseeable future actions, and it fails to identify the mitigation measures that will effectively prevent those adverse impacts.

The DFEIS did not identify exceedances of near-field Class II increments in the project area, or Class I and II exceedances in far-field areas. However, had the BLM conducted a full modeling analysis of all emissions to determine the amount of increment that is available for new emissions, the results likely would have been quite different. In order to remedy these serious omissions, BLM must prepare a proper and thorough air quality analysis, and then identify mitigation measures sufficient to prevent any clean air violations. BLM's obligation is not limited to considering the direct impacts of the proposed project. It must consider the cumulative impacts of the proposed project, including impacts in areas where the NAAQS and increments are currently violated or where additional emissions will cause those standards to be violated. If the revised DEIS identifies expected violations of the federal pollution standards, 43 USC §1712(c)(8) prohibits the project from being approved until sufficient mitigation measures are adopted to prevent or remedy these violations. The kinds of mitigation measures that should be identified and evaluated for effectiveness in a revised DEIS include phased development of the fields, emissions reductions from other stationary sources, and more stringent emission control technologies. 43

The DFEIS must recommend the adoption of emission controls assumed in the air quality analysis 43g

The DFEIS indicates at 5-1 that "the discussion of potential cumulative impacts assumes the successful implementation of the environmental protection and mitigation measures discussed [in the DFEIS]." To the extent that the DFEIS relies on assumed emissions controls for the purpose of developing the emissions inventory, those assumptions amount to de facto mitigation measures that must be required in the ROD. These include, but are not limited to, the requirement of 50% control of fugitive dust on access roads, use of natural gas as the fuel for compressor stations, the assumed NOx emissions limitations of 1.0 and 1.5 gr/hp-hr for compressor engines, and the use of NSCR on diesel engines. To conclude that emissions will not be greater than the estimates developed for the EIS, the ROD must adopt mitigation requirements that ensure emissions will be controlled to the levels assumed in the analysis. Since the DFEIS at 4-31 admits that "the amount of potential emission reductions have not been calculated[ ], the BLM must explain the basis for its confidence in the effectiveness of the mitigation measures discussed in the DFEIS. To the extent BLM relies on these assumed control measures to limit emissions for the purpose of demonstrating NAAQS or increment compliance, then they must be required in the ROD so that BLM can satisfy its obligation to "provide for compliance" with applicable pollution standards.

Visibility Impairment in Class I areas not prevented. 43h

The Clean Air Act imposes on the Secretary of the Interior, as a Federal Land Manager ("FLM"), "an affirmative responsibility to protect the air quality related values (including visibility) of any such lands within a Class I area and to consider, in consultation with the Administrator, whether a proposed major emitting facility will have an adverse impact on such values." 42 USC §7475(d)(2)(B).

The Secretary's affirmative responsibility to protect visibility in these Class I areas is not limited by the Act to major stationary sources. Indeed, EPA's PSD rule requires the FLM to "consider, in consultation with the Administrator, whether a proposed source or modification would have an adverse impact on such values." 40 CFR §51.166(p)(2). Under the PSD rule, "Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant subject to regulation under the Act." Id., §51.166(b)(5). This obligation is therefore not limited to "major stationary sources."

The Secretary's affirmative responsibility applies not only to the review of permits for major stationary sources, but also applies to the implementation of RMPs under FLPMA. Under FLPMA, public lands are to be managed to "protect the quality of ...ecological, environmental, air and atmospheric, water resource and archeological values; [and] that where appropriate, will preserve and protect certain public lands in their natural condition." 43 USC §1701(a)(8). When the Secretary, acting through the BLM, is also authorizing major action for other federal public lands where the activities being authorized are shown to interfere with the express policies enacted to protect parks, wilderness and monuments under her stewardship, then the Secretary must exercise her authority under FLPMA to ensure that the air and atmospheric resources (including visibility) in Class I areas are protected. 43

The DFEIS shows that visibility in the Bridger and Fitzpatrick wilderness areas will be negatively impacted from cumulative emission sources. DFEIS Table 5-5. The cumulative visibility impacts in these Class I areas are likely much greater than shown because Powder River Basin emissions sources and other reasonably foreseeable future emission sources were ignored. Yet despite this evidence of deterioration in visibility, the DFEIS is completely silent regarding how the FLM will carry out the affirmative responsibility to protect visibility in these areas. The Act requires protection of visibility in Class I areas which is not determined by one source, or one set of sources, but by all sources adding emissions since the national goal was enacted. It is visibility impairment caused by these cumulative impacts that must be addressed and prevented.

In addition to the affirmative responsibility to "protect" visibility in Class I areas under her charge as an FLM, the Secretary acting through BLM under FLPMA, also has a responsibility to ensure the national visibility goal established by the Clean Air Act is implemented in all Class I areas likely to be impacted by emissions from developments authorized by BLM.

The CAA "declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution." 42 USC §7491(a)(1). EPA has promulgated rules to implement this national goal. 40 CFR Part 51, subpart P. These regulations include requirements defining reasonable progress toward the national goal. "The reasonable progress goals must provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period." 40 CFR §51.308(d)(1). This rule has been affirmed by the D.C. Circuit Court of Appeals is response to an attack by industry arguing that EPA is not authorized by the Act to establish a "no degradation" standard. American Corn Growers v. EPA, 291 F.3d 1 (D.C. Cir 2002)("Petitioners' claim that the agency is without authority to mandate attainment of the national goal is therefore meritless.")

This standard for reasonable progress has not been addressed in the EIS, but should have been. At a minimum, the DFEIS should have identified the visibility for the least impaired days in each of the Class I areas where significant impacts are predicted, and the extent to which the additional emissions from the projects combined with other regional emissions increases would cause degradation on those days. The results of that analysis should then be considered for the purpose of identifying the kinds of mitigation measures necessary to achieve the no degradation standard. This should also be addressed in a supplement to the current DFEIS before any final action to approve the project or adopt final mitigation measures as part of the ROD. 43

Acid rain impacts underestimated. 43i

Due to the absence of a legally and technically sufficient cumulative effects analysis, the DFEIS is able to conclude that "the predicted change in sensitive lake ANC levels resulting from cumulative source acid deposition were found to be far below the levels of acceptable change." DFEIS at 5-12. However, had the BLM considered impacts from all identified reasonably foreseeable future actions, including the Powder River Basin developments, the projected impacts to ANC would have been shown to be much more significant. For example, while the DFEIS shows cumulative emissions are 27.1% of the LAC at Upper Frozen Lake, the Powder River EIS shows that impacts to the LAC are nearly double the acceptable limit of one ueq/L for this extremely sensitive lake. Consequently, because cumulative acid rain impacts are actually much greater than shown in the DFEIS, the mitigation measures to be considered for the purposes of preventing NAAQS and increment violations, and for ensuring no degradation of visibility on the least impaired days, should also be assessed to determine if they will prevent the adverse impacts on lake chemistry based on the FS guideline. If not, then additional mitigation options should be identified to determine the extent of mitigation needed to prevent adverse impacts on the quality of these lakes.

Other air quality issues.

Projected success rate. The DEIS forecasts a "success rate of 65%" which provides the basis for evaluation of direct and cumulative impacts. The 65% rate is predicted for each of the action alternatives. What information, specifically, was used to arrive at this particular success rate? Why is the rate the same for the Proposed Action and Alternative A? One would assume greater selectivity, and hence a higher success rate, under the Proposed Action, which limits the number of wells that can be drilled to 385, as opposed to 592 wells for Alternative A which allows for a greater margin of error and perhaps a more aggressive exploration program. 43j

43k Compression emissions. The Technical Support Document (at 21) states that "for RFD projects that approved new compression but no specific amount was stated in the NEPA analysis, it was assumed 35 horsepower per well will be required." What is the basis for this assumption? We have seen rates as high as 200 horsepower per well documented in EISs prepared for oil and gas projects in southwest Wyoming.

43l RFD emissions. The Technical Support Document (at 21) states that SO_2 and particulate matter emissions are not estimated for RFD sources because that they "expected to be insignificant." How can these pollutants be deemed insignificant? Please explain.

43m Well production emissions. The DFEIS (at 4-12) identifies well production emissions. Does the emissions inventory include VOC (including HAP) emissions from well "blow downs," a common, yet often overlooked (in air quality analyzes), technique used to enhance production?

43n Fugitive dust. The DFEIS (at 4-11) "assumes" a 50% control efficiency for fugitive dust emissions by "watering on the well pad and service roads during well pad and resource road construction." Is watering (and thus 50% control efficiency) also assumed after completion of the construction phase? In order to ensure compliance with the 50% control efficiency, will the Record of Decision contain mandatory watering and other dust control measures? If not, how will the assumed 50% efficiency rate be assured?

Watering costs operators money, so it is rarely done. In our experience, 50% control efficiency for particulates cannot be realistically achieved, and in fact is not achieved in any oil and gas project under BLM's jurisdiction. What evidence does BLM have to the contrary? Beside raw assumptions, is there any practical, "on the ground" basis for the assumed 50% control efficiency? 43

Wind Erosion Emissions. Are the wind erosion estimates for the construction period only, or do they include emissions from continued wind erosion that will occur over the life of the project?

A specific problem area of the emission inventory is that existing techniques for estimating fugitive dust emissions are incomplete, inadequate, and probably severely underestimate the actual PM_{10} and $PM_{2.5}$ emissions. A recent report prepared for the Western Regional Air Partnership by a panel of experts (WGA, 2001) has extensively examined the issue of fugitive dust. Specific findings from this effort that apply directly to this impact analysis are:

- Fugitive dust emission factors need to be appropriate.
- Fugitive dust emissions are not continuous processes.
- Source activity levels need to be accurate.
- Annual fugitive dust emission inventories are not sufficient.
- Spatial allocation of fugitive dust emissions is important.
- The fine fraction of fugitive dust emissions is not adequately characterized.
- Disturbed surfaces produce significantly more fugitive dust than undisturbed surfaces.

The air quality analyses presented still rely on the out-dated EPA emission factors and, thus will underestimate fugitive dust emissions

In addition to the use of out-dated emission factors, major sources of fugitive dust emissions directly associated with the proposed Project are still excluded in the air quality analysis:

- Increased road dust emissions due to increased non-project travel (recreational, curiosity, miscellaneous) on new dirt roads developed specifically for the Project: 43
- Increased wind blown dust from surfaces disturbed by CBM development due to the fact that disturbed surfaces produce significantly more fugitive dust than undisturbed surfaces (WGA, 2001); and

The DFEIS Socioeconomic Analysis is Incomplete and Likely Flawed

As outlined in Section 4.12.3.1.1, the input-output model has a number of highly dubious assumptions, leading to equally dubious conclusions:

As an indication of the poor prospects for gas production in the DFPA, the BLM states: "Good reservoir rock is not uniformly distributed within the DFPA. Therefore, development wells would most likely be drilled along productive trends or pockets between large intervening areas that are nonproductive and have little or no development potential." DFEIS at 4-3. And yet the DFEIS forecasts a 65% success rate for the wells – Please explain the basis for this unusually high success-rate assumption. Are these development wells or exploration wells? Please explain what percent of the well drilled are exploration wells. Exploration wells have much lower success rates than 65%. In fact, in the Jack Morrow Hills DSEIS, the overall projected success rate for wells was set at only 15%, in an area that is likely more geologically promising for gas production than the DFPA.

Please explain how much gas was estimated to be economically recoverable in the planning area. What is the reference for the estimated gas used in the economic impact analysis? How were the production estimates on page 2-30 derived? What references were used to estimate these amounts? How do these estimate (page 2-30) compare with USGS estimates for economically recoverable gas? Please compare and contrast USGS estimates of economically recoverable gas with the amount of gas assumed recoverable and used in the economic impact analysis. 44

According to BLM's estimates, "Under the assumptions used for this assessment, annual gas production would total 16 million MCF in 2003, increase to 50.5 million MCF in 2021, and then gradually decrease to about 10 million MCF in 2041. At the volumes assumed for this assessment, over 1.1 trillion cubic feet of natural gas would be produced over the 40 year production cycle." DFEIS at 4-5. Please identify the assumptions that were used to arrived at this unbelievably high figure. Please justify the 5 bcf per well estimate used in the economic impact analysis (page 4-102). Is this the amount of gas estimated to be economically recoverable? How was this 5bcf estimated? Please justify this assumption and estimate.

The majority of gas discussed in the DEIS is gas that has yet to be discovered. Estimating quantities of undiscovered gas is fraught with uncertainties and economic risks for communities, companies, and the public. The Congressional Research Service (Corn et al. 2001) [3] recommends economically recoverable resources as the basis of policy analysis. Virtually every report on gas supply in the past 20 years has reported results in terms of economically recoverable resources (Environmental Law Institute 1999).[4] If economic constraints on production are ignored, land management plans will overestimate the quantity of gas that will be recovered in the reasonably foreseeable future. Please discuss the economic assumptions and parameters used in developing the RFD and planning alternatives.

The USGS 50-percent estimate (the mean estimate) for economically recoverable gas represents the best, unbiased estimate currently available. Please justify why the USGS data, developed by government scientists, were not used in the analysis. Please justify why USGS estimates of economically recoverable resource were not used in the DEIS. Please repeat the analysis of economic impacts using USGS data for both technically and economically recoverable gas resources. Such an analysis is required by law in order to provide a realistic examination of economic impacts. We believe the current economic impact analysis is in violation of the law.

The costs that USGS uses to assess economically recoverable gas and oil include the direct costs of exploration, development, and production at the wellhead, plus a profit margin. For gas to be considered profitable to recover, the full costs of gas recovery must be less than or equal to the price for gas. It is important to note that USGS estimates do not include transportation costs, non-market costs, or off-site mitigation costs such as increased water treatment costs. Please discuss potential mitigation costs and transportation costs associated with bring the gas to market. The DFEIS discusses water quality concerns and therefore must include an analysis of mitigation costs.

To account for the uncertainty inherent in price forecasts, USGS uses a range of prices, rather than a single-point estimate, to attain its estimates of economically recoverable gas. In the Rocky Mountains, the USGS estimates that less than 20 percent of technically recoverable gas is economically recoverable when prices (adjusted for inflation to 2002 dollars) are between $2.17 and $3.62 per thousand cubic feet (mcf) (Table 1, below). As context, from 1996 to 1999, wellhead gas prices in the United States averaged about $2.16 per mcf, with $2.00 per mcf viewed as the long-term price trend (Energy Information Administration 2002). At these prices, more than 60 percent of technically recoverable gas in the lower 48 states cannot be extracted profitably. USGS research underscores the economic risks from drilling in general, and the specific risks to the public and communities from developing management plans that ignore economics.[5] 44

Economic recovery rates for technically recoverable gas in the United States based on prices of $2.17 and $3.62 per mcf (2002 dollars)

Region	USGS Economic recovery rates[a]
United States	38 – 46%
Rockies and Northern Plains	13 – 18%
Southwestern Wyoming	1 - 5%

[a] Percent of technically recoverable gas in reserves and gas left undiscovered that is profitable to extract (before accounting for environmental costs). Excludes recovery rates for offshore gas. Source: Root et al. 1997[6], Attanasi 1998[7], LaTourrette et al. 2002[8]

The fact that the USGS estimates that less than 5% of the gas in SW Wyoming can be recovered economically underscores the need to generate management plans and to estimate potential economic impacts to communities based on the gas and oil resources that are economic to recover. A more recent report by RAND estimated that 35-45% of the gas in the Greater Green River area is economic to recover.

Management plans that rely on technically recoverable estimates will dramatically overstate the gas recoverable and hence the jobs and revenues from future gas production (Morton et al. 2002)[9]. Please discuss how economic constraints on gas production were included in the analysis of expected gas recovery from each alternative, including the economic impacts associated with each alternative. Please complete a marginal revenue-cost analysis of estimated gas production levels. Please compare and contrast the marginal revenues with the marginal costs for the full range of drilling levels. For example, examine the cost from drilling wells in deeper formations with the potential revenues from deeper wells. 44

The average wellhead price in Wyoming was $2.42 as reported by EIA (based on data from 1996 to 2000), but more importantly, regionally observed wellhead prices range mainly from $1.20 to $2.09 per mcf. Based on the temporal analysis of Sproule Associates, wellhead prices in Wyoming price reach $2.81 less than 25% of the time. (see article August 7, 2002 from the Gillette, WY News Record, attached at the end of these comments). Please provide a more detailed analysis of historic wellhead prices from the local, regional and state perspective – include an analysis of the variation in those prices. Please obtain the Sproule analysis and fully consider the economic implications of their analysis in the estimates of gas resource potential and recoverable gas resources.

Employment Estimates in the DFEIS are Overblown
Under Section 3.12.2.3 (Earnings), unemployment rates in counties have remained flat for the period from 1992-2002. This would indicate that projections of improved employment from the Proposed Action may not be appropriate given that oil and gas development in these counties during the same period increased.

Oil and gas companies are not expected to hire large numbers of local workers (per the DFEIS). The conclusion is that the two affected counties will experience population growth as a result of the proposed action, and furthermore that this growth will be beneficial to the area. Adding residents to the counties may have some positive economic impacts in terms of multipliers in the economy, but these effects have not been examined. Please include the detailed analysis from the input-output model used. It should also be noted that these new residents will demand increase public services and the net benefit to the communities will be reduced by the added costs of these additional services. Please estimate the expected increases in required services and the costs thereof. 45

Carbon county earnings increased 5% between 1990 and 1998. The DEIS asserts that when adjusted for inflation this small increase is actually a 21% decrease. This decrease in real earnings is exaggerated. Estimates from Columbia School of Journalism, NASA, and the Federal Reserve Bank of Minneapolis (as well as others) estimate this decrease at only 16%.

Increased Gas Revenues Will Not Necessarily Buoy Local Economies
Under Section 3.12.2.4 (Recent Oil and Gas Activity), it is important to note that in Carbon County oil and gas earnings increased during the same period described above when overall earnings decreased. Please explain how the DEIS can support the assertion that local earnings will increase with this project given past experience? 46

Strains on the Infrastructure of Local Communities
Under Section 3.12.5 (Community Facilities, Law Enforcement and Emergency Management Services), if the expected population increases occur, the need for law enforcement will also increase. Studies have show that per capita incidents increase in rapidly expanding rural 47

communities (Gulliford, 1989; Power, 1996). This will require proportionally greater needs for emergency services, especially law enforcement. The costs of these additional services should be considered in projections of the economic impacts of the Proposed Action.

It is noted that the town of Wamsutter is seeking grant funds for new emergency equipment (and it is noteworthy that these funds have not yet been secured). Please include the costs of new emergency equipment as costs of the project. These costs should be included regardless of whether grants are used or local.funds. The use of grant funds for Wamsutter emergency equipment needs will reduce the availability of funds for other projects locally, statewide, or nationally. These opportunity costs need to be accounted for within the economic analysis of the Proposed Action. Furthermore, given that the need for additional equipment has been assumed, if such equipment is foregone in the event that grant funds are not secured, this will impose costs on the community in terms of reduced levels of services. Additionally, an ambulance provided by an oil and gas company should also be considered a cost of the project.

Increased emergency personnel needs are to be expected due to increased population. Fulfilling these needs with volunteers cannot be considered to have a zero cost. The value of additional volunteer time must be considered as a cost of the project. The DEIS projects that local earnings will increase. If these projections are correct the value of current volunteer time will also increase. Please estimate these costs and show where they have been accounted for in this assessment. 47

Water system improvements which are required to accommodate growth need to be counted as project costs regardless of the funding source. Again, these funds must come from somewhere and their use for a water project in the Desolation Flats area will have opportunity costs in terms of foregone projects elsewhere. The costs of water system improvements need to be included in the DEIS.

The DEIS also notes that the town of Wamsutter has "identified a variety of street and infrastructure improvements...that may be required to accommodate growth from the drilling programs planned for the area." (p. 3.95) No outside funding for these services has been identified. Please explain how these direct project costs have been accounted for in the DEIS.

Expected sewer and water improvements in Baggs need to be included as project costs.

Sales and Use Tax Benefits of the Project are Overblown

Under Section 3.12.6.2 (Sales and Use Tax), only a portion of sales and use taxes are returned to the local community. If the DEIS is only looking at costs to the local community (i.e. leaving out costs paid by outside sources such as grants), consistency requires that only the portion of the increased sales and use tax revenue increase from the Proposed Action that will actually accrue to the local area can be counted as a benefit of the Proposed Action. 48

Impact Significance Criteria

In Section 4.12.2, the following criteria are used to determine whether socioeconomic impacts of the Proposed Action and alternatives would be significant: 49

An increase in county or community population that would strain the ability of affected communities to provide housing and services or otherwise adapt to growth-related social and economic changes;

This criteria has not been properly applied. It is clear from the analyses used in the DEIS that population increases are expected, and that these increases will result in the need for additional services. However, these services have not been explicitly described, the costs of these services have not been estimated, and they have not been included in the calculations of the economic impacts of the project. 49

And aggregate change in revenue and expenditure flows likely to result in an inability on the part of affected units of government to maintain public services and facilities at established service levels; 50

This criteria has been only partially adhered to given that only potential increases in revenue have been accounted for in great detail. Costs to the local communities have been mentioned in qualitative terms and dismissed. Please provide detailed estimates of the costs (market and non-market) associated with the changes in community population and structure.

Permanent displacement of residents or users of affected areas that would result from project-induced changes or conflicts with existing ways of life;

This criteria has been applied only to local ranchers who are expected to suffer some losses in grazing access. It has been assumed that this will not produce a permanent change in the way of life of ranchers. This may or may not be the case, since the only measure of this is the replacement of the AUMS and income. It is possible that some ranchers may feel permanent changes in their way of life due to the presence of natural gas wells on the landscape. 51

Furthermore, it is incomplete to assume that the only group affected by this project are ranchers. Recreationists and conservationists from within and without the community will most certainly experience a permanent change in their existing way of life. These changes have been dismissed in the DEIS. Please include an accounting how the impacts on users other than ranchers.

Levels of project-induced dissatisfaction likely to generate organizational response and conflict.

It seems to be inappropriate to use the generation of "organizational response" as a criteria for significance for the levels of dissatisfaction. Dissatisfaction will be experienced by many facets of the communities surrounding the project area, as well as those who are not in the immediate vicinity, but who have legitimate status as stakeholder in Federal public lands. The dissatisfaction will also take many forms, but can be unified into a common unit of measure using widely accepted economic techniques to measure non-market costs and benefits (and dissatisfaction is certainly a non-market cost). Secondary research can and should be used to estimate anticipated costs associated with this dissatisfaction, and from this a significance criteria can be developed that is more appropriate. Please revise this significance criteria to be consistent with the first two which use quantifiable measures. 52

LETTER 150 cont'd

Conclusion
We appreciate the opportunity to comment on the 385 well project proposed by the BLM in the Desolation Flats project area. If this project is to go forward, it should implement the most environmentally preferable methods available, irrespective of cost to the proponent. The DFEIS as it currently stands is a woefully deficient document, both from a substantive standpoint and from a legal perspective. If oil and gas development is to go forward at all, we urge the BLM to make radical changes to the current Proposed Action so that the project is done right, limiting drilling to contexts where it is compatible with protecting wildlands, wildlife, and public recreation. Please keep us informed of all future developments in regard to this project.

Sincerely yours,

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LETTER 151

July 1, 2003

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Dear Mr. Spehar:

The following comments are submitted on behalf of the National Wildlife Federation (NWF), the Wyoming Wildlife Federation (WWF), and the Natural Resources Defense Council (NRDC) for consideration during the preparation of the final environmental impact statement (EIS) for the Desolation Flats Natural Gas Field Development Project (DFP).

Despite its name, Desolation Flats is not a barren landscape. It is home to many wildlife species including several, such as sage grouse and mountain plovers, which are declining across their ranges. It is, perhaps, too late to forestall listing under the Endangered Species Act for the mountain plover. The sage grouse may yet avoid that fate if the agency takes the right actions now. Desolation Flats also provides crucial habitat for big game species such as mule deer, elk, and pronghorn. Pronghorn herds in Wyoming decreased by more than 300,000 animals between 1964 and 1997. Mule deer populations are also waning. For these reasons, NWF, WWF, and NRDC believe the Bureau of Land Management (BLM) should approach the development of 400 to 600 natural gas wells in Desolation Flats with extreme caution. The final EIS prepared by BLM should include a careful exploration of the true impacts of such development on the wildlife and wildlife habitat remaining in Desolation Flats and measures necessary to preserve that habitat.

The Draft EIS for the DFP fails to provide that true picture of the impacts of those wells because it offers no alternative that would prohibit or even limit oil and gas development in the area. The so-called "No Action" alternative assumes that the existing leases will be developed and that individual Applications for Permits to Drill (APDs) will be approved with little or no significant measures to preserve wildlands or wildlife habitat in Desolation Flats. 1

The Draft EIS also assumes, without any substantiation, that the cumulative impacts from other oil and gas development in the Red Desert of Wyoming is insignificant because much of the lands impacted by that development has been reclaimed. While lands that were disturbed during the construction phase of oil and gas development may have been re-graded and seeded, there is no indication in the Draft EIS that BLM actually measured the long-term success of reclamation. Moreover, the more serious issue of habitat fragmentation is not redressed by scattering some seed around the well pads. As long as the roads, pipelines, power lines, and other infrastructure remain, wildlife habitat is degraded. 2

The Draft EIS assumes, without explanation, that BLM will be able to impose occupancy and seasonal limitations on surface-disturbing activities in order to preserve wildlife and wildlife habitat. There is, however, no discussion in the Draft EIS of whether the underlying leases contain no surface occupancy (NSO) and seasonal stipulations. Unless the leases themselves contain such stipulations for the protection of crucial big game ranges, sage grouse leks and nesting areas, mountain plover nesting areas, raptor nest sites, prairie dog towns, and other essential wildlife habitats, BLM cannot ensure that these habitats will be off limits to drilling and road construction. BLM's description of the impacts from oil and gas development on Desolation Flats, therefore, is simply inaccurate. 3

In addition, the proposed development of 400 to 600 natural gas wells in Desolation Flats is not in conformity with the existing Great Divide Resource Management Plan (GDRMP). The Draft EIS makes a prodigious attempt to reconcile the size of this proposal with the projections for only limited oil and gas development contained in the GDRMP. This attempt fails because it too relies on a number of assumptions; none of which are true. First, the Draft EIS assumes that the only significant impact from oil and gas development is the number of acres permanently disturbed by infrastructure. It ignores the very real impacts of habitat fragmentation and degradation that result from oil and gas development.[1] Second, the Draft EIS assumes that all abandoned wells and roads have been reclaimed. It assumes that all surface disturbance associated with the construction phase of currently producing fields has been rehabilitated. Yet, there is nothing in the Draft EIS to support these conclusions. 4

The proposal described in the Draft EIS is not in conformity with the Visual Resource Management (VRM) provisions of the applicable land use plans. It also fails to address agency guidance directing that all Wilderness Study Areas (WSAs) will be managed "according to VRM Class I management objectives . . .." BLM Instruction Memorandum No. 2000-096. 5

Finally, the mitigation measures proposed in the Draft EIS are inadequate to preserve wildlife and wildlife habitat in Desolation Flats. 6

For these reasons, NWF, WWF, and NRDC strongly urge BLM to complete a supplemental draft EIS for the DFP that includes a new alternative that addresses staged development of the project area. BLM should also explore alternatives that provide more effective protection for wildlife and wildlife habitats. The final EIS must more accurately reflect the environmental damage associated with this proposal. 7

The Alternatives Analysis is Flawed

Regulations adopted by the Council on Environmental Quality (CEQ) require a reasonable range of alternatives to be presented and analyzed in the EIS so that issues are "sharply defined" and the EIS provides "a clear basis for choice among options . . . ." 40 C.F.R. § 1502.14. CEQ regulations and court decisions make clear that the discussion of alternatives is "the heart" of the NEPA process. Environmental analysis must rigorously explore and objectively evaluate all reasonable alternatives. 8

The Draft EIS looks at only three alternatives.[2] None of these alternatives examines BLM's authority to control the pace and direction of development on the public lands in order to preserve wildlife and their habitat. The Proposed Action authorizes the construction of 385 natural gas wells at locations yet to be disclosed. Alternative A authorizes the construction of 592 natural gas wells. While Alternative B looks at a significantly decreased number of wells, the alternative itself is completely unrealistic. It assumes that drilling for natural gas would continue at historic rates over the next twenty years resulting in 78 new gas wells in Desolation Flats.[3] Alternative B, however, leaves the rate of development completely within the discretion of the industry. APDs would simply be approved as they were submitted. Alternative B also assumes that "[c]oordinated area-wide monitoring and protective plans . . . would not be required . . .." Draft EIS at 2-3. It therefore provides no significant measures to preserve wildlife habitat. 8

BLM rejected without further consideration an alternative that would have added lands to the adjacent Adobe Town Wilderness Study Area (WSA) and one that required reductions in the infrastructure associated with oil and gas development by the use of directional drilling. In short, BLM included no alternative that would have authorized fewer wells than the numbers requested by industry. BLM included no alternative that looked at whether the impacts of oil and gas development could be reduced by requiring staged development. Under such an alternative, strict habitat rehabilitation of damaged wildlife habitats would be required before additional oil and gas activities would be authorized.

The Draft EIS Fails to Address the True Impacts on Wildlife

Pages 2-38 and 2-39 of the Draft EIS contain a list of additional mitigation measures that BLM intends to require for oil and gas development within Desolation Flats.[4] These measures include both timing and occupancy restrictions that purport to limit the scope of surface-disturbing activities. However, there is no discussion in the Draft EIS of whether the underlying leases already issued by BLM contain provisions that may be inconsistent with the imposition of such measures. There is no suggestion that requiring a lessee to move well pads or other infrastructure to avoid sage grouse leks or mountain plover nesting habitat or prairie dog colonies may not be legally feasible. However, if the leases contain no NSO stipulations for such habitat, BLM may not be able to impose such limitations now. The same is true for the seasonal restrictions BLM hopes to use to protect crucial big game winter range.[5] If the leases contain no timing stipulations on surface-disturbing activities, the lessees may object strenuously to BLM's attempt to impose new seasonal closures. Without an honest assessment of BLM's legal authority and practical ability to impose these mitigation measures, the Draft EIS's conclusion that 385 new natural gas wells in Desolation Flats will result in no significant impact on wildlife populations is no more than wishful thinking. 9

Additional Impacts Not Addressed in the Draft

The Draft EIS fails to address the impacts of the Proposed Action on Native American sacred sites and landscapes. There is no indication in the Draft EIS that BLM consulted with the tribes or others concerning such locations within the DFP area and what measures should be undertaken to preserve them.[6] 10

There is no discussion in the Draft EIS on the economic impacts of the DFP on hunter use or other recreation. The addition of 400 to 600 natural gas wells is bound to degrade the hunting experience in Desolation Flats. Others who use the area seeking to experience natural landscapes will also avoid the DFP area. The economic impact of that should be addressed in the final EIS. 10

The Proposed Action Does Not Conform to the Existing Land Use Plan

The Draft EIS engages in a deceptive effort to demonstrate that BLM has not exceeded, and that the DFP will not cause the agency to exceed, the Reasonably Foreseeable Development Scenario (RFD) for the Rawlins Field Office (RFO) (otherwise known as the Great Divide Resource Area). In the Draft EIS, BLM boldly proclaims that it "will not authorize oil and gas development actions (APD's, ROW's) that exceed current RFD estimates prior to the plan review and possible amendment." Draft EIS at 1-11. This pledge is followed by a tortured attempt to obscure the fact that BLM has already done so.

In the 1987 Great Divide Resource Management Plan EIS ("GDRMP EIS"), BLM relied upon an RFD of 1,440 wells. GDRMP DEIS at 220 ("It is projected that 1,440 new wells will be drilled on private, state and federal mineral estate in the planning area over the next 20 years.") Oil and gas wells over and above 1,440, therefore, cannot be authorized in conformity with the GDRMP. *See* Draft EIS at 1-11. In the Draft EIS for the DFP, however, BLM now calculates "new wells" in a manner completely dissimilar from that set forth in the RFD prepared for the GDRMP. First, BLM asserts that there were 2,310 active wells within the RFO as of the close of 2001, including all wells drilled since the late 1800's. BLM then cites the GDRMP EIS's finding that 1,775 wells were active in 1987. BLM subtracts 1,775 from 2,310 and declares that there are only "535 active producing wells since the RMP EIS," a figure far below the 1,440 discussed in the RFD. 11

However, the fact that there were 2,310 active wells in 2001 and 1,775 active wells in 1987 does not mean that only 535 new oil and gas wells were drilled between 1987 and 2001. There are certainly wells that were drilled after 1987 but were no longer active in 2001. The RFD for the GDRMP drew no distinction between wells that would remain active for the life of the plan and those that might be abandoned or plugged temporarily for purposes of the RFD's estimate that 1,440 new wells would be drilled on the RFO.[7] Absent more precise data regarding how many wells were drilled in what year, a more appropriate measure is total wells in 1987 (3,671) versus total wells in 2001 (5,756). Draft EIS at 1-12, Table 1-4. Simple subtraction demonstrates that the total number of oil and gas wells within the RFO increased by 2,085, a number far larger than the 1,440 projected in the RFD. In other words, the RFD for the RFO already has been exceeded by 645 wells. Add in the 1,353 wells already authorized but not yet drilled, *see* Draft EIS at 1-13, and it becomes apparent that BLM has approved nearly 2000 wells that, by its own admission, it should not have.

BLM then tries to obscure the fact that it has already exceeded the RFO RFD by referring to the Continental Divide/Wamsutter II Draft EIS and trying to focus attention on "long term disturbance" rather than the number of wells. Essentially, BLM now argues that the appropriate metric for evaluating RFD compliance is really "long term disturbance," defined by the agency as disturbed and unreclaimed ground surface. According to BLM, the 1987 GDRMP EIS projected that 34,355 acres would be disturbed during the 20-year period and that 18,263 of those acres would be reclaimed at the end of that period. GDRMP EIS at 220. So, the agency argues, as long as the 385 wells proposed for Desolation Flats, together with other active and/or authorized wells, will not result in the permanent disturbance of more than 16,092 acres within the RFO, the RFD will not have been eclipsed.

There are, however, at least two critical flaws with BLM's analysis. The first is BLM's misplaced conviction that only "long term disturbance," as defined by the agency, is relevant to whether impacts from oil and gas development have exceeded those projected and planned for in the 1987 GDRMP. In short, BLM assumes that only the actual surface acreage still disturbed after required reclamation is relevant to a determination of whether its RFD scenario has been exceeded. Ignoring for the moment BLM's wholly unsupported assumption that required reclamation has been successfully completed on each and every well site on the RFO, including wells on private lands, the impacts stemming from oil and gas development do not correspond in a linear fashion to the surface acreage disturbed. Because of pipeline and, particularly, road construction, habitat fragmentation, for example, is magnified with each well drilled. A spiderweb of active and inactive roads across the landscape creates impacts on that landscape's capacity as wildlife habitat that reach far beyond the specific pieces of ground occupied by well pads or pipelines.[8]

11 The second flaw in BLM's analysis is the conjecture that all inactive wells have been fully and adequately reclaimed. BLM states that "[r]eclamation was assumed to take from 3-5 years in the RMP. Therefore, it can be assumed that most wells drilled before 1996 should be adequately reclaimed." Draft EIS at 1-13. The second statement does not, however, follow from the first. Just because reclamation was presumed to take from three to five years does not mean that all 2,774 plugged and abandoned wells within the RFO (Draft EIS at 1-12, Table 1-4), in fact, have been reclaimed. Wishing will not make it so. BLM cites no data whatsoever regarding the extent to which these wells have actually been reclaimed or with what degree of success they have been reclaimed. Nevertheless, BLM's "long term disturbance" analysis proceeds from this notion that no impact whatsoever remains from any plugged or abandoned wells within the RFO.

BLM extrapolates the acreage of long-term disturbance based solely on the net increase in active wells within the RFO between 1987 and 2001. According to this calculation, 585 active wells x 9 (the average disturbance-per-well considered in the CD/WII analysis[9]) = 4,815 acres of disturbed and unreclaimed ground surface. Draft EIS at 1-12 to 1-13. This analysis takes wholly for granted that the other 1,500 wells drilled since 1987 left no trace whatsoever upon the landscape and its wildlife—an assumption utterly unsupported by any data in the Draft EIS.

BLM then relies on this calculation to conclude that an additional 4,224 acres of disturbance projected from currently-authorized but not-yet-completed projects (1,353 wells) combined with the 4,815 figure is less than the 16,092 acres of unreclaimed disturbance forecast in the 1987 GDRMP EIS. This presumably is why, according to BLM, the RFD will not be exceeded with the addition of 2,029 acres of disturbance from the DFP. Draft EIS at 1-14.

This analysis claims to rely on the CD/WII EIS. It is, however, not consistent with the findings of that EIS.[10] In the CD/WII EIS, completed in 2000, BLM determined that 10,305 acres of long-term disturbance already had resulted from 1,145 wells developed within the RFO since completion of the GDRMP. The CD/WII EIS also concluded that an additional 1,200 acres would be disturbed pursuant to projects authorized for Creston/Blue Gap, Mulligan Draw, Hay Reservoir, Sierra Madre, and South Baggs. CD/WII EIS at § 3.1. Nothing in the Draft EIS for the DFP supports a conclusion that 560 well sites and 5,490 acres within the RFO have been reclaimed completely within the past three years.

11 Moreover, even if long-term disturbance were an appropriate measure of RFD compliance, the analysis contained in the Draft EIS does not support BLM's conclusion that the RFD has not been exceeded. For example, BLM fails to explain why, at the top of page 1-13 of the Draft EIS, the agency uses a "CD/WII disturbance figure" of nine acres per well but further down that same page asserts that the "average disturbance per well" from the CD/WII project is less than three acres. Draft EIS at 1-13 and Table 1-5.[11] If a consistent figure of nine acres of disturbance per well were used, then the 1,353 wells remaining to be completed under existing authorizations would result in 12,177 acres of disturbance. Together with the 4,815 acres of land disturbed by active wells, the total surpasses the 16,092 acres of unreclaimed lands BLM asserts is the relevant calculation for the RFO RFD.[12]

In sum, despite BLM's remarkable effort in the Draft EIS, there simply is no way to reconcile the current explosion of oil and gas activity within the RFO with the limited projections for such development contemplated in the GDRMP.

Visual Resource Management

According to the Draft EIS, the only significant impact of the DFP will be reductions in the scenic quality of viewsheds and lands within the Monument Valley Management Area (MVMA) and the Adobe Town WSA.[13] Twenty-three square miles of the DFP lie within the MVMA. Twenty-one miles of the DFP abut the WSA. According to the Draft EIS, the lands in the MVMA are to be managed as VRM Class II. Class II areas:

> are those where changes in any of the basic elements (form, line, color, or texture) caused by management activity should not be evident in the characteristic landscape.

12 GDRMP at 74. The Draft EIS admits that the short-term impacts will "exceed the level of contrast permitted in both Class 2 and Class 3 areas . . .." Draft EIS at 4-95. More importantly, these contrasts "will persist . . . after drilling." Draft EIS at 4-95. The well densities that would be authorized pursuant to the Proposed Action clearly will not be in conformity with the provisions of the existing RMP with respect to the MVPA. *See* Draft EIS at 4-96.

In additioo, "site disturbance and facilities would be visible from other portions of the MVMA and adjacent Adobe Town WSA, diminishing the quality of the visual experience . . .." Draft EIS at 4-95. NWF, WWF, and NRDC strongly urge BLM to restrict development in order to preserve the Class I quality of the WSA.

Wildlife Resources and Management

13 Before authorizing additional oil and gas development in the Red Desert, BLM must carefully evaluate the problem of habitat fragmentation and the need for maintaining the connectivity or linkage of habitats. Habitat fragmentation is strongly associated with the road building that accompanies such development. By altering the physical environment, roads and highways modify animal behavior. Many species shift home ranges, change movement patterns and even reproductive and feeding behaviors to avoid roads. Perhaps the most pervasive, yet insidious, impact of roads is providing easy access to natural areas and encouraging further development. Additional information on the impacts of roads on wildlife can be found at http://www.defenders.org/habitat/highways/new/ecology.html, incorporated into these comments by this reference.

The necessary corollary to preventing habitat fragmentation is maintaining migration corridors and other ecological linkages. It is more effective to preserve existing corridors/linkages than to attempt to create new ones. It is, therefore, crucial that BLM identify all existing migration and other movement corridors. BLM must preserve the ecological integrity of these corridors and linkages. Big game migration routes have been widely documented, but riparian areas, mountain ranges and ridges, and other areas serve as important linkages among habitats (and even eco-regions) that must be preserved. The Draft EIS contains no discussion of these linkages. BLM itself has acknowledged that maintaining connectivity between important habitats (crucial winter ranges, severe winter relief areas, calving/fawning habitats, migration corridors, topographic relief areas, mountain shrub communities, forest type habitats) is paramount to sustaining viable big game herds and other wildlife. Fragmentation of these crucial habitats will not sustain big game population objectives. Draft Environmental Impact Statement for the Jack Morrow Hills Coordinated Activity Plan (JMHCAP DEIS) at 235. These corridors should be kept free of fences and other structures that impede wildlife movement.

To prevent habitat fragmentation and preserve ecological linkages, the final EIS and ROD should establish specific, binding limits on road densities and other habitat disturbance that cannot be exceeded in the Desolation Flats area. This is the only way to ensure biological diversity is preserved, and that ecosystem attributes are not "nickel and dimed" to death by individually small but cumulatively significant site-specific projects.

Big Game

14 The BLM lands within Desolation Flats contain important habitat for pronghorn, elk, and mule deer. The area provides "crucial habitat" for all three species. Those activities and structures which prevent animals from reaching crucial habitat, which damage or eliminate crucial habitats, or which cause animals to avoid such habitat can severely impact the health and size of these herds.[14] Both mule deer and pronghorn populations in Wyoming are in decline. The JMHCAP DEIS noted that the elk in the Steamboat Mountain area previously were migratory but, "due to the large amount of human

14 disturbance and activities associated with oil and gas development," these migrations are no longer observed. JMHCAP DEIS at 236. Thomas et al. (1979) reported that elk habitat effectiveness declined 54% when improved road densities were 2.0 road miles/square mile in open habitats. The final EIS must address the impact of habitat fragmentation and loss of ecological connectivity on big game habitats in the DFP area and within the ranges of affected herds.

The cumulative impacts analysis in the Draft EIS contains no reference to the efforts of the Cumulative Impacts Task Force or the Green River Advisory Committee to design a framework for the assessment of impacts on big game habitats in the region. Moreover, the cumulative impacts analysis contained in the Draft EIS is both superficial and misleading. For example, the Draft EIS seems to recognize that the big game populations in Desolation Flats are part of larger herd units and that these herds migrate. Still, the Draft EIS contains little or no information on current population trends among these herds and no data on the types of activities, other than oil and gas production[15], occurring on the lands they occupy that might impact their numbers. Vegetation management, mineral production, feral horse populations, and livestock grazing within the respective herd units will impact big game in the Desolation Flats area.[16] BLM must consider and evaluate the cumulative impacts of these and other activities across the affected herd units in order to assess the cumulative impacts to big game populations of oil and gas development in Desolation Flats.[17] Once BLM completes a more accurate assessment of the cumulative impacts on the DFP area's big game herds, we believe that assessment will demonstrate the need to set aside crucial ranges within Desolation Flats from additional oil and gas development.

Mountain Plover and Sage Grouse

15 The mountain plover and sage grouse have experienced drastic reductions in numbers across many parts of their native ranges.

Mountain Plover: The mountain plover is one of the rarest of North America's birds. Declines in mountain plover populations nationwide have been so severe that the United States Fish and Wildlife Service (USFWS) has proposed to add it to the endangered species list. Although Wyoming was previously considered to be on the periphery of the range of mountain plover, Wyoming is now "the core" of the remaining range of this rare bird.

Oil and gas development, as well as other human disturbances, in nesting areas is a direct threat to mountain plover population viability. For example, USFWS concluded that the proposed Seminoe Road Coalbed Methane project "is likely to adversely affect the proposed mountain plover," stating that wellfields are likely to become an "ecological trap," attracting feeding plovers to roadways where they become susceptible to vehicle-related mortality. Alternatively, increased vehicle traffic could drive plovers away from preferred nesting areas.[18] For these reasons, all mountain plover nesting habitat in the planning area should be closed to surface-disturbing activities and vehicle access should be severely restricted.[19]

16 Northern Sage Grouse: Sage grouse have declined precipitously rangewide and are now under consideration for listing under the Endangered Species Act. Declines have been estimated at over 50% in occupied area, and up to 80% decline in bird abundance, with complete extirpation in several states. In Wyoming, populations have declined significantly since the 1950s. Even so, Wyoming is the global stronghold for sage grouse and has the largest population in the world.

To ensure the viability of sage grouse populations, it is important to provide protection and restoration for breeding, nesting, brood rearing, and winter habitats. To ensure that these habitats are protected, BLM should impose NSO restrictions within two miles of leks and on all lands within nesting or wintering areas.[20]

Prairie Dogs, Mountain Plovers, Burrowing Owls, Swift Fox, and Black-footed Ferrets

17 The public lands in Desolation Flats provide habitat for white-tailed prairie dogs. In July 2002 a petition to list white-tailed prairie dogs as threatened under the ESA was jointly filed by the Center for Native Ecosystems, Biodiversity Conservation Alliance, Southern Utah Wilderness Alliance, American Lands Alliance, and Forest Guardians.[21] Moreover, both prairie dogs and their habitat are highly important to numerous other species, such as the swift fox, mountain plover, burrowing owl, ferruginous hawk, and our nation's most endangered mammal, the black-footed ferret.

Under the Black-footed Ferret Recovery Plan, USFWS has called for the establishment of ten or more separate, self-sustaining, black-footed ferret populations. At present, there does not appear to be enough large prairie dog complexes (5,000-10,000 acres) to achieve this goal. During the last decade, black-footed ferrets have been reintroduced at a number of sites but with only mixed success. Plague has wiped out several black-tailed prairie dog communities where ferrets have been reintroduced, with the result being that those reintroduced ferret populations have also been decimated. Other reintroduction sites have been marginal in terms of the size of the prairie dog complex where the ferrets were released. Only at the Buffalo Gap National Grasslands in South Dakota does it appear that there are sufficient numbers of prairie dogs to sustain a self-perpetuating, viable population of black-footed ferrets. The success at this site can be attributed to the absence, so far, of plague in South Dakota. With this exception, there is no current reintroduction site where a population of ferrets has been re-established that is likely to be viable and self-sustaining over the long term without increasing the number of prairie dogs and prairie dog colonies at reintroduction sites. Re-established ferret populations at Shirley Basin in Wyoming, at the Charles M. Russell National Wildlife Refuge and at Ft. Belknap Indian Reservation in Montana, at Aubrey Valley in Arizona, on BLM lands in northwestern Colorado, and at Coyote Basin in Utah, are all tenuous to varying degrees.

In addition to ferrets, which are obligate predators on prairie dogs, a number of other short-grass prairie wildlife species appear to be closely associated with prairie dogs and depend on their colonies. These associated species include those that use prairie dogs for food and those that use prairie dog burrows for shelter. Although none of these dependent species are currently listed as threatened or endangered (none are as exclusively dependent on prairie dogs as black-footed ferrets), they are all in decline. By clipping vegetation and creating areas free of vegetation, prairie dogs create the ecological conditions required by mountain plovers for nest sites. There are strong indications that prairie dogs, as well as ground squirrels, are the primary prey of the ferruginous hawk. Burrowing owls utilize the burrows of prairie dogs for cover and nesting habitat. They appear to prefer active prairie dog colonies to burrows in decimated colonies. In addition to preying on prairie dogs in some areas, swift fox appear to require a high density of burrows for escape cover and for shelter.[22] Continued decline of prairie dogs is very likely to accelerate the decline of these prairie dog associates to the point where they, too, will warrant listing, along with the black-footed ferret. 17

NWF, WWF, and NRDC believe that all larger prairie dog colonies and those associated with other vulnerable species such as black-footed ferrets, mountain plovers, burrowing owls, ferruginous hawks, and swift fox should receive NSO restrictions on oil and gas development and protection from other surface-disturbing activities.[23]

Endangered Fish

According to the Draft EIS, streams located within the DFP area drain into the Little Snake River. Draft EIS at 3-34. Waters from the Little Snake River eventually flow into the Colorado River. The Colorado River basin is home to several species of fish listed as endangered pursuant to the Endangered Species Act. Draft EIS at 3-68 to 3-70. The Biological Assessment (BA) prepared in conjunction with the Draft EIS concluded that the DFP will have no effect on these fish species. This conclusion, however, is based upon little or no data. The Draft EIS contains no current data on surface water quality within the DFP area. Draft EIS at 3-38. "Site-specific groundwater data for the project area is [also] limited." Draft EIS at 3-39. Moreover, what data is available seems to indicate that the surface disturbance and produced water associated with oil and gas development may affect the endangered fish in the Colorado River. 18

The soils in the DFP area are highly erosive. Draft EIS at 3-37. Moreover, soils in the project area have a high selenium content. Draft EIS at 3-28. Therefore, the construction of roads and well pads is likely to result in an increase in total dissolved solids (TDS) and selenium in streams within the project area. "Limited data from the deeper parts of the Tertiary aquifer system indicate TDS concentrations [in groundwater] in excess of 10,000 mg/l." Draft EIS at 3-45. Selenium problems with groundwater also have been identified. Draft EIS at 3-46. Water produced during drilling operations on the DFP area, therefore, is likely to be contaminated with both TDS and selenium. Since, fish can be extremely sensitive to TDS and selenium, additional information should be generated on the potential impacts of the DFP on water quality in the Little Snake River drainage in order to support the "no effect" conclusion of the BA. The final EIS should also include data on the efficacy of BLM's Best Management Practices to control non-point sources of pollution associated with oil and gas activities.

Conclusion

NWF, WWF, and NRDC strongly urge BLM to suspend the issuance of new APDs in the DFP area until a new Resource Management Plan (RMP) for the RFO can be completed. In the process of preparing that RMP, the agency should take the requisite "hard look" at the environmental impacts that will result from additional oil and gas development in Desolation Flats and elsewhere in the Resource Area. To do so, the agency should explore fully its ability to control the pace and direction of both exploration and production activity. Moreover, the agency must consider the cumulative impacts on wildlife populations resulting from the full range of actions occurring on the public and private lands that provide wildlife habitat. Those actions include, among others, mineral production, livestock grazing, road construction, vegetation management, and recreation. Without an evaluation of the toll each of these actions exacts on habitat availability and effectiveness, no EIS is complete. 19

Thank you for considering these comments.

Sincerely,

Kathleen C. Zimmerman
Land Stewardship Policy Specialist
National Wildlife Federation
Rocky Mountain Natural Resource Center
2260 Baseline Road, Suite 100
Boulder, Colorado 80302
303-786-8001

Larry Baesler
Executive Director
Wyoming Wildlife Federation
P.O. Box 106
Cheyenne, Wyoming 82003
307-637-5433

Johanna H. Wald
Director, Land Program
Natural Resources Defense Council
71 Stevenson Street, Suite 1825
San Francisco, California 94105
415-777-0220

Some of the documented impacts of roads on wildlife and wildlife habitat include direct loss of habitat; increased habitat fragmentation; decreased wildlife security; lost hunter opportunity; decreased quality of experience; spread of noxious weeds and edge species; increased erosion; decreased water quality; and increased illegal activity, such as wildlife poaching, artifact collecting, littering and illegal off-road use.

LETTER 151 cont'd

[1] It must be noted at the outset that the purpose of this Draft EIS is unclear. At this juncture, the federal lessees have not submitted a Plan of Development (POD) for the Desolation Flats area nor have they submitted individual Applications for Permits to Drill (APDs). So, the effect of the Record of Decision (ROD) issued by BLM once the final EIS is completed is uncertain. Does the issuance of this ROD mean that the first 385 natural gas wells automatically will be approved within Desolation Flats? Does BLM intend to set off some sort of race to its district office to be the first in line to acquire these APDs? Since there is no development proposal before the agency, there is no accurate description of where roads and well pads will be constructed. There is no way to tell from the Draft EIS what wildlife habitats will be affected. For this reason, we believe the discussion of potential impacts in this EIS is too vague to support the issuance of any APDs or PODs.

[2] Given the current industry proposal to drill 385 wells in Desolation Flats, there is no reason to believe that development of Desolation Flats will continue at historic levels.

[3] No data is provided on the efficacy of any of these mitigation measures or those contained elsewhere in the Draft EIS. Merely listing proposed mitigation measures with no supporting data is not adequate. Moreover, there is no discussion of agency resources available to impose mitigation measures and monitor their effectiveness. Without a binding commitment on the part of BLM to carry out promised mitigation, we fear that mitigation will be jettisoned in favor of management activities with higher internal agency priorities. We note, for example, that the Draft EIS promises annual surveys of many wildlife habitats, including sage grouse leks and areas occupied by mountain plovers. Draft EIS, Appendix H at H-10 and H-12. The Wildlife Monitoring Plan for the Continental Divide/Wamsutter project contained these same kinds of assurances regarding annual habitat assessments, but NWF, WWF, and NRDC are concerned that required data has not been collected for several years now. The final EIS for the DFP should include an honest appraisal of BLM's commitment and ability to complete the promised monitoring.

[4] It is unclear from the Draft EIS whether any of these restrictions will apply during the production and reclamation phases of natural gas development on Desolation Flats. If these restrictions are only enforceable during initial exploration and construction, the Draft EIS should so state and must address truthfully the continuing impacts on wildlife from ongoing natural gas operations.

[5] In general, the Draft EIS's discussion of impacts to cultural resources is inadequate and disingenuous. Since so little of the DFP area has been surveyed, it is impossible for BLM to conclude that there will be no significant impacts to cultural resources.

[6] The RFD concerned itself with the total amount of new wells to be drilled over the 20-year planning period, not merely the increase in active and producing wells over the course of that period. By citing the 585-well difference in active wells between 1987 and 2001, BLM is comparing apples (net increase in active wells) with oranges (the RFD, or total number of new wells).

[7] With respect to the impacts of long-term surface disturbance on many small birds and mammals, the Draft EIS asserts that these birds and mammals will simply move to new habitat when a well pad or road is constructed on their nest sites or burrows. The Draft EIS fails to acknowledge that such alternative habitats do not exist. Suitable areas most likely are already occupied.

[8] It should be noted that this assumption does not differ substantially from the one utilized by the BLM in the GDRMP EIS. 16,092 acres of disturbance divided by 1,440 wells is a little more than 11 acres per well, not much more than the 9-acre figure now employed at times in the Draft EIS. BLM's assertion that the current footprint of oil and gas development is significantly smaller now than in 1987 is not borne out by these figures.

[9] In a recent brief submitted to the Interior Board of Land Appeals, BLM provided yet another description of the CD/WII EIS analysis. There, the agency asserted that BLM had "reduced by 870 the number of wells permitted in the CD/Wamsutter Project Area, which provided an 870 well cap set-aside for use by BLM's Rawlins Field Office." *National Wildlife Federatin v.Bureau of Land Management* No. IBLA 2003-58, Agency's Answer to National Wildlife Federation's Statement of Reasons (March 24, 2003). In fact, the CD/WII EIS found that the CD/WII project, as planned, would have exceeded the GDRMP RFD. CD/WII EIS at § 3.1. Therefore, the Record of Decision modified the project to allow 870 fewer wells than proposed. *Id.* This, however, did not allow BLM to permit another 870 wells without exceeding the RFD.

[10] It certainly appears that BLM is again trying to explain away its existing violation of the RFD by mixing apples and oranges—nine acres of disturbance per currently-active well (and DFP well) versus less than three acres of disturbance for authorized but not yet drilled wells in the CD/WII and other projects. *See* Draft EIS at 1-12 to 1-14 and Table 1-5.

[11] If the CD/WII analysis were followed consistently, then the Draft EIS would conclude that 10,305 acres of long-term disturbance had occurred within the RFO as of 1998. The 1,353 wells remaining to be completed would result in an additional 12,177 acres of disturbed and unreclaimed lands. Total acres of long-term disturbance within the RFO, therefore, would be 22,562. This far exceeds the 16,092 acres of disturbance BLM claims was anticipated by the GDRMP.

[12] *See, e.g.*, Draft EIS at S-11.

[13] Of course, widespread impacts to other noncrucial habitats can also negatively affect big game.

[14] The cumulative impacts analysis with respect to existing and future oil and gas development is based upon the same flawed logic addressed above in the discussion of the RFD. The cumulative impacts analysis fails to address the problems of habitat fragmentation and loss of ecological connectivity. It also assumes, without any supporting data, that reclamation requirements have been met and that such measures have been successful at restoring wildlife habitat. *See* Draft EIS at 5-4.

[15] There is also a lack of acknowledgement within the Draft EIS of the rise in poaching that will result from the increased access and human presence authorized in the project area. Poaching will reduce herd numbers. It will also have impacts on the wildlife enforcement resources of the Wyoming Game and Fish Department. BLM should address this issue.

[16] Cumulative analysis at this scale may reveal opportunities for off-site mitigation through habitat improvement.

[17] NWF, WWF, and NRDC welcome the inclusion of driving restrictions within plover habitat as discussed in the Draft EIS. *See* Draft EIS at 4-80.

[18] This must include not only active nest sites but areas that have been used for three out of the last five years. *See* Comments of Stephen J. Dinsmore on the Great Divide Resource Management Plan (February 3, 2003) (attached to these comments). The Draft EIS proposes a buffer zone of only 200 meters for plover nesting areas. A buffer this size is inadequate to protect mountain plovers. *Id.* In addition, the mitigation measures outlined on pages 4-79 and 4-80 of the Draft EIS should be required in all circumstances.

[19] The Draft EIS proposes only a ¼ -mile buffer for sage grouse leks. This buffer is inadequate. *See* Comments of Clait E. Braun on the Great Divide Resource Management Plan (February 14, 2003) (attached to these comments). In the Supplemental Draft Environmental Impact Statement for the Jack Morrow Hills Coordinated Activity Plan JMHCAP SDEIS), BLM itself acknowledges that nearly half of the sage grouse nesting habitat lies more than two miles beyond the radius of the strutting grounds. JMHCAP SDEIS at 3-18. Twenty percent occurs more than four miles from leks. JMHCAP SDEIS at 3-18. Moreover, "[m]ost successful nests are located beyond two miles." JMHCAP SDEIS at 3-19. The Wyoming Game and Fish Department (WGFD) has recognized that existing measures to protect sage grouse have been ineffective. WGFD Comments on Draft Management Situation Analysis for the Great Divide Resource Area at 5. At the very least, BLM should await the completion of the Wyoming Greater Sage-Grouse Conservation Plan before finalizing this EIS. *See* JMHCAP SDEIS at 3-18.

LETTER 151 cont'd

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[20] A copy of NWF's white paper on the status of the white-tailed and Gunnison's prairie dogs is attached to these comments.

[21] While the USFWS has recently determined that swift fox are not warranted for listing under the ESA, the population remains much reduced from its former abundance.

[22] While we welcome the imposition of measures to preserve some prairie dog colonies on Desolation Flats, NWF, WWF, and NRDC are concerned that the proposal in the Draft EIS providing that "[w]ell pads and disturbances would be placed outside of (50 m) prairie dog colonies where feasible," Draft EIS at 2-39 (emphasis added), may protect only small prairie dog towns, more easily avoided by oil and gas operations, while larger, more ecologically-significant colonies will be destroyed.

LETTER 152

Jim Weis
3416 Foxcroft
Cheyenne, WY
Please include full name and address
82001

RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
- **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final-EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Signature: ______________________

LETTER 153

K. Moriarty
419 E 21st Ave.
Torrington, WY,
82240
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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1

Signature: Kelly Moriarty

LETTER 154

Jeff Rickerl
904 S. 8th St
Laramie WY
82070
lease include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 2 2003

82301+2407 22

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
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1

Signature:

LETTER 155

JAUNDALDERIS, S.
709 E. 21st
Cheyenne, Wy. 82001
Please include full name and address

RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

Please read and consider!

Dear Mr. Spehar,

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Signature:

LETTER 156

Ed Sherline
610 CUSTER ST
Laramie, WY 82070
Please include full name and address

RECEIVED
JUL - 2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

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Signature: Ed Sherline

LETTER 157

JR & MA Snider
1452 Indian Hills
Laramie, WY 82072
Please include full name and address

CHEYENNE WY 820
PM
JUL
3

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

82301+2407-22

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
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- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature: MA Snider Jeff Snider

Maryalice Snider
Jeff Snider

LETTER 158

Whitney Nichols
PO Box 2137
Laramie, WY 82073
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Dear Mr. Spehar, the following are my individual, substantive comments.

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
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Signature:

LETTER 159

Shannon Noice
P.O. Box 2137
Laramie, WY 82073
Please include full name and address

RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

Dear Mr. Spehar, My Comments on Adobe town are as follows;

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

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Signature:

LETTER 160

Laurie Milford
904 S. 8th St.
Laramie WY 82070
Please include full name and address

RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

22

Dear Mr. Spehar,

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Signature: Laurie Milford

LETTER 161

CECILY GOLDIE
P.O. BOX 114
CENTENNIAL WY 82055
Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL -2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

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Signature: Cecily Q. Goldie

LETTER 162

Duplicate of Letter 145

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Ecological Services
4000 Airport Parkway
Cheyenne, Wyoming 82001

RECEIVED
JUL 3 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

In Reply Refer To:
ES-61411/W.02/WY7152

July 1, 2003

Memorandum

To: John Spehar, Project Coordinator, Bureau of Land Management, Rawlins Field Office, Rawlins, Wyoming

From: Jodi L. Bush, Acting Field Supervisor, U.S. Fish and Wildlife Service, Wyoming Field Office, Cheyenne, Wyoming

Subject: Comments on the Desolation Flats Natural Gas Field Development Project, Draft Environmental Impact Statement

This responds to your requests for comments on the Desolation Flats Natural Gas Field Development Draft Environmental Impact Statement (DEIS) dated April, 2003, received in the Wyoming Fish and Wildlife Service Field Office on April 25. The DEIS analyzes the effects of developing the Desolation Flats area in Sweetwater and Carbon counties, Wyoming. The preferred alternative is to drill 385 natural gas wells, in addition to the existing 63 producing and shut-in wells, with a density of 2 to 4 wells per section. Drilling construction would occur over the next 20 years, and life of the project is estimated at 50 years. In addition to the well pads, approximately 542 miles of new or upgraded roads, and 361 miles of new pipelines would be constructed.

GENERAL COMMENTS

1

In the discussions of project-related disturbances, the DEIS consistently refers to the percent of the entire project area affected. This is particularly true of discussions regarding wildlife habitat. But, for most wildlife species, the effects of development extend beyond the actual percent of area affected due to indirect effects. Although large areas of suitable habitat may be undisturbed by project development, these areas may be unusable due to indirect effects such as road avoidance, habitat fragmentation, and avoidance of human activity. The U.S. Fish and Wildlife Service (Service) recommends that the Bureau of Land Management (Bureau) include a discussion on indirect as well as direct impacts, as a discussion of only direct impacts can be misleading to the readers of the DEIS about the actual impacts of project development on wildlife and wildlife habitat.

Threatened and Endangered Species
Section 7(a)(1) of the Endangered Species Act of 1973 (Act), as amended, (50 CFR 402) authorizes the Bureau to use their programs to further the conservation and recovery of threatened and endangered species. Although the DEIS addresses measures to minimize impacts of project development on listed species, we believe the Bureau should also seize the opportunity to incorporate measures for species conservation and recovery into the planning document for this project. 2

Appendix I of the DEIS is the Biological Assessment for this project. However, the U.S. Fish and Wildlife Service (Service) has not receive a request from the Bureau to initiate consultation, either formal or informal, under section 7 of the Act. Since there will be depletions to the Colorado River system, formal consultation for species affected will be necessary. We encourage the Bureau to initiate consultation on all listed and proposed species potentially affected by the project immediately so that delays in project implementation can be avoided.

SPECIFIC COMMENTS

Page 2-39, Chapter 2, Resource Specific Requirements; Wildlife: The Bureau requires a 200 meter buffer from all active mountain plover nests for all project-associated developments. However, since release of the DEIS for the Continental Divide/Greater Wamsutter II project, the Service, through consultation with Dr. Fritz Knopf, has determined that a 200 meter buffer may not be sufficient to protect these nests. Therefore, we recommend this buffer be increased to 0.25 mile (~ 400 meters). 3

Page 2-46, Table 2-4: Comparative Impact Summary: Impacts to an endangered species cannot be "mitigated" as stated in Table 2-4. Rather, impacts may be minimized through the implementation of protective or conservation measures. 4

Page 3-60, Section 3.7.6, Upland Game Birds, Greater Sage-grouse: Please be advised that the greater sage-grouse habitat management guidelines referred to in this section (Braun *et al.*, 1977) are outdated, and have been replaced by Connelly, *et al.*, 2000. Since the publication of the 1977 guidelines, extensive research has been conducted on greater sage-grouse habitat requirements and use, resulting in more information on the ecology and recommended management for this species. We strongly encourage incorporating these new guidelines into the development of greater sage-grouse mitigation and minimization measures for this project. For example, Connelly, *et al.* (2000) report that the average distances between nests and leks range from 1 to 6 km (3/4 - 4 miles), and that nest placement is independent of the lek. Therefore, the standard 2-mile radius buffer around lek sites (referred to in this and all subsequent wildlife sections) may be insufficient to protect nesting hens. 5

Page 3-65, Section 3.8, Special Status Plant, Wildlife and Fish Species, Black-footed Ferret and Associated White-tailed Prairie Dog Colonies: Prairie dog mapping of the project area was completed in 2000. The completion of mapping prior to drafting of the DEIS is very useful in evaluating potential project impacts and we appreciate these pro-active efforts. However, the boundaries of prairie dog colonies frequently shift, and therefore mapping completed 3 to 4 years prior to project implementation may no longer be accurate. We request that the mapping completed in 2000 be used as a guideline only for project planning. Determination as to whether or not black-footed ferret surveys will be necessary should be based on site-specific data, collected within one year prior to the development of individual project components. 6

Page 3-71, Section 3.8.2, Sensitive Plant, Wildlife, and Fish Species, Birds: The DEIS identifies the yellow-billed cuckoo as a sensitive species, but does not acknowledge that the western populations of this species is a candidate species under the Act. While the candidate status does not confer any protection to the cuckoo under the Act, it does identify the cuckoo as a species for which listing is warranted, but precluded by higher priority actions at this time. We believe the Bureau should acknowledge the status of this species, and use your authority under Section 7(a)(1) Act to further the conservation and recovery of the cuckoo. 7

Page 3-71, Section 3.8.2, Sensitive Plant, Wildlife and Fish Species, Reptiles: No supporting information is provided regarding the conclusion that the midget-faded rattlesnake is unlikely to occur on the project area. The Bureau should provide the supporting information for this conclusion. If the midget-faded rattlesnake may occur on the project area, protective measures for this species should be implemented. 8

Page 4-59, Section 4.7.3.1.1, General Wildlife: The discussion regarding potential impacts to non-game songbirds is contradictory and confusing. The second sentence in the first paragraph of this section states that temporary disturbances during construction would favor horned larks, yet in the following discussion, the DEIS states that horned larks would be one of the primary non-game songbirds most affected by habitat loss. The discussion continues by stating that the impact to non-game songbirds as a result of project implementation is likely to be low, yet within the same sentence, the DEIS states there is no data to accurately quantify the impacts. The Bureau should clarify the actual impacts to horned larks, and other non-game songbirds as a result of project implementation. Also, if there is no data by which to determine project effects on non-game songbirds, that should simply be stated rather than attempting to provide an effects analysis that cannot be supported. This should also be considered for the discussion on non-game mammals, which suffers the same deficiencies (second paragraph of this section). 9

Sage sparrows and sage thrashers are also specifically identified as species that will be affected by habitat losses resulting from project implementation. The DEIS states that the project impact on these species will be low. However, in the previous section (4.7.3.1, page 4-59) the DEIS states that shrub reclamation would require 8-15 years, which constitutes a long-term project impact according to the definitions on page 4-1. Again, the Bureau should identify the supporting information for the conclusion drawn for these two species, especially since time necessary for habitat reclamation may be a limiting factor in species recovery.

The General Wildlife section addresses only the impacts to non-game songbirds and mammals as a result of direct habitat loss. There is no discussion regarding impacts resulting from indirect effects, such as bird and mammal avoidance of roads, noise disturbance during breeding seasons, and displacement from suitable habitats as a result of human presence. These indirect impacts should also be considered for an accurate evaluation of project-related disturbances on non-game wildlife.

Page 4-65, Section 4.7.3.1.4, Upland Game Birds: The DEIS concludes that there will not be "significant" impacts to the greater sage-grouse as a result of project implementation, provided all mitigation, seasonal restrictions, and reclamation measures are successful. The Service appreciates the Bureau's commitments to implement these items. However, the DEIS does not analyze indirect effects of project development on the greater sage-grouse, or the impacts previously observed on other energy development projects, such as habitat fragmentation, population declines, lek abandonment, failure of hens to initiate nests, and loss of productivity (Braun, 1998; Connelly *et al.*, 2000, Lyon, 2000). These impacts have been demonstrated to occur, even when mitigative measures, such as those described in the DEIS, are implemented. The Bureau should include these potential impacts in the analysis, and if still applicable, provide the supporting information for the current no "significant" impact conclusion. 10

Page 4-67, Section 4.7.3.1.5, Raptors: The second paragraph of this section discusses measures to minimize potential impacts to nesting raptors by protecting both active and inactive nests. A no surface occupancy for permanent structures is identified to protect inactive nests that may serve as alternate nesting locations. However, no such stipulation is identified for active nests. In addition, a buffer of 0.5 to 1-mile is identified as being necessary to protect the active nests of all raptor species. If activities within this radius of an active nest might cause abandonment, or reduced productivity, than the 300 m (< 0.25 mile) no surface occupancy around inactive nests will not be sufficient to protect these nests should they be used in the future. While we appreciate the efforts to protect inactive, alternate nests, the above problems with consistency should be resolved, and an appropriate no surface occupancy stipulation should also be applied to active nests. 11

On the same page the DEIS states that all new project-related roads would be closed to public use near active raptor nests to "offset" the potential impact of increased traffic on nest success and productivity. Given the levels of project-related traffic identified in the DEIS, (Table 2.3, page 2-31), restricting only public use of new roads may be insufficient to protect these birds. We request the Bureau consider avoiding road construction near active raptor nests thereby avoiding the potential conflict altogether.

Page 4-68, Section 4.7.3.1.6, Combination of Wildlife Concerns: The DEIS discusses the numbers of potential wildlife concerns by map locations (sections). However, the purpose of this discussion is not identified, nor is it clear how these results will be used by the Bureau for project planning and minimization of potential impacts to wildlife. The Bureau should clarify how this information will be used. For example, will all exception requests be denied in sections of the project area that have more than three wildlife concerns? 12

13 Page 4-74, Section 4.8.1.2.1, Proposed Action: In the discussion regarding black-footed ferrets, the DEIS states that white-tailed prairie dog colonies were overlapped by raptor nest buffer areas and mountain plover habitat. Therefore, the DEIS concludes that "significant impacts" in these areas of overlap are not expected as long as the mitigation measures for each individual resource is implemented. However, the mitigation measures for both the active raptor nests and mountain plover are limited to seasonal restrictions. No mitigation measures are identified solely for white-tailed prairie dogs. Therefore, mitigation measures for raptors and mountain plovers may do little to protect white-tailed prairie dogs, which may be impacted through surface disturbance, or increased human recreational activities within occupied the colonies outside of these overlapping seasonal restrictions. These impacts can occur at any time of the year. If the Bureau intends to protect white-tailed prairie dogs, minimization measures should be developed specifically for this species. 13

Page 4-79, Section 4.8.1.3, Impacts Summary: In this section, the discussion on threatened and endangered fishes in the Colorado River system concludes that no impacts to these species are expected as a result of project implementation even though water depletions will occur. However, as per the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (January 22, 1988) the Service has determined that any depletion in the Colorado River System may adversely affect these species, and formal consultation under section 7 of the Act is required. This section should be revised to more accurately reflect the impacts of depletions resulting from project development on these species, and we encourage the Bureau to initiate formal consultation. 14

Page 4-80, Section 4.8.1.4, Additional Mitigation Measures: To protect foraging mountain plovers, the Bureau proposes to limit night-time traffic speed and volume from April 10 until July 10. These dates reflect the nesting season of mountain plovers on their breeding ranges. However, adults and broods are typically present in Wyoming for several months after nesting is completed. Therefore, restricting traffic speed and volume only until July 10 may not provide adequate protection for birds foraging along roads. We strongly encourage the Bureau to implement this measure throughout the entire period mountain plovers are present on their breeding range (April 10 until late September). 15

Page 5-16, Section 5.3.7, Wildlife: The DEIS states that additional mitigation measures may be implemented if monitoring indicates there will be "significant" cumulative effects as a result of project implementation. However, the DEIS contains no provisions for adaptive management. Also, on page 5-22, Section 5.3.8.1, the DEIS states that implementation of the wildlife monitoring plan will provide adequate protection from "significant" cumulative effects. However, the wildlife monitoring plan (Appendix H) does not assess cumulative effects for threatened and endangered species. Rather, the plan identifies techniques for determining if a threatened or endangered species is present, and measures to minimize impacts if the species is found. If the monitoring plan is to be used for assessing cumulative impacts, it should be modified accordingly. Also, the Bureau should identify an adaptive management strategy to allow for changes in project implementation should significant cumulative effects be identified, and the supporting information for the current determination that there will be no cumulative impacts to threatened, endangered, and proposed wildlife and plants. 16

Page 5-19, Section 5.3.7.3, Greater Sage-grouse: The discussion regarding cumulative impacts to the Greater sage-grouse only considers direct habitat loss. However, as previously noted, impacts from energy development to this species may also occur indirectly (see comments 17 above). Therefore, we do not believe the analysis is this section is an accurate reflection of the cumulative impacts to this species. The Bureau should repeat this analysis, incorporating indirect effects and published research to make a final determination. 17

Page B-2, Appendix B: Standard Mitigation Guidelines, Section 2.1, Guidance: The seasonal restriction section of the Wildlife Mitigation Guideline limits the definition of buteos to ferruginous and Swainson's hawks. However, there are several other species of buteos that could be present on the project area, such as red-tailed hawks, Swainson's hawks, etc. Additionally, several species of owls are also omitted from this list of raptors. All species of raptors that could potentially occur on the project area should be incorporated into the Wildlife Mitigation Guidelines. 18

Page H-2, Wildlife Monitoring Plan, Section 2.1, Annual Reports and Meetings: The DEIS states that "...where possible, data presented in reports will be used to identify potential correlations between development and wildlife productivity and/or abundance." However, the plan is not designed to collect the type of data necessary, with the appropriate statistical rigor, to make any meaningful correlations. For example, the only productivity information identified for collection for nesting raptors, which is to occur once every 5 years (page H-4), and no baseline data is going to be collected. There are also no provisions for determining if raptor productivity is being influenced by project development, or other factors, such as cycling in prey bases, weather, etc. Therefore, it will be extremely difficult to accurately use these data for any assessment of project impacts on nesting raptors. We encourage the Bureau to re-draft the monitoring plan to meet the stated objective of determining the effects of development on wildlife productivity and abundance. If this is not possible, the existing plan should be more accurately described as merely describing presence and absence, and a project planning document. 19

Page H-4, Wildlife Monitoring Plan, Section 2.2.1, Raptors: Raptor inventories are only to be conducted every 5 years. Therefore, it is unclear how raptor nest buffer stipulations will be applied if surveys are not conducted annually to determine if nesting raptors are present. The monitoring plan should be modified to allow for annual surveys so that nesting raptors can be adequately protected during project implementation and operation. 20

Page H-8, Wildlife Monitoring Plan, Section 2.2.3.1, Black-footed Ferrets: The Bureau has committed to conducting black-footed ferret surveys, prior to development, in all white-tailed prairie colonies that meet the Service's definition of black-footed ferret habitat. The techniques that will be used to make the suitable habitat determination should be included in this monitoring plan to assist the Bureau and project proponents with project planning. 21

Page H-16, Wildlife Monitoring Plan, Section 2.3., Protection Measures: The Bureau has committed to implementing wildlife protection measures used on other oil and gas development projects, for this current project. While these measures should minimize potential impacts, there has been no evaluation of their effectiveness on previous projects. Additionally, the Bureau should acknowledge that these measures can be waived through the exception process. We request a thorough evaluation of these past measure be made, and if previously ineffective, modified appropriately. Also, the Bureau should clearly outline under what conditions these protection measures will be waived for an exception request by the project proponents. 22

Page H-17, Wildlife Monitoring Plan, Section 2.3.1, Raptor Protection Measures: The monitoring plan states that well locations, roads, ancillary facilities and other surface structures requiring a repeated human presence will be constructed within 825 feet of active raptor nests (1,200 feet of ferruginous hawk nests). But, the plan does not provide any information that demonstrates these distances will be effective in reducing the potential effects of project-related disturbance on nesting raptors. Also, on page 4-67, the DEIS states that no surface structures will be built within 300 m (~ 990 ft.) of inactive raptor nests. The Bureau needs to resolve this discrepancy, and provide the supporting information that the selected buffer distances are adequate to protect nesting raptors. 23

Page H-21, Wildlife Monitoring Plan, Section 2.3.3.5, Yellow-billed cuckoos: The Bureau prohibits construction of well sites, access roads, and pipelines within 500 feet of surface water, for the protection of riparian resources, including the yellow-billed cuckoo. However, the monitoring plan does not identify any provisions to minimize indirect effects to this bird, if it occurs. This should be corrected. 24

The Service appreciates the opportunity to comment on this DEIS. If you have any questions regarding this letter or your responsibilities under the Act, please contact Pat Deibert of my staff at the letterhead address or phone (307) 772-2374, extension 26.

REFERENCES

Braun, C.E. 1998. Sage grouse declines in western North America: What are the problems? Proceedings of the Western Association of Fish and Wildlife Agencies 78:139-156.

Braun, C.E., T. Britt, and R.O. Wallestad. 1977. Guidelines for maintenance of sage grouse habitats. Wildlife Society Bulletin 5:99-106.

Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage grouse populations and their habitats. Wildlife Society Bulletin 28(4): 967-985.

Lyon, A.G. 2000. The potential effects of natural gas development on sage grouse (*Centrocercus urophasianus*) near Pinedale, Wyoming. Thesis, University of Wyoming, Laramie, USA.

cc: BLM, Wyoming State Office, Cheyenne, WY (J. Carroll)
FWS, NEPA Coordinator, FWS, Denver, CO (C. Young-Dobrowski)
WGFD, Statewide Habitat Protection Coordinator, Cheyenne, WY (T. Collins)
WGFD, Non-Game Coordinator, Lander, WY (B. Oakleaf)

LETTER 163

Chet & Goldie Pitcher
P.O. Box 301
Medicine Bow, WY 82329

Please include full name and address

82329

RECEIVED
JUL 3 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wildnemess-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
- **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Don't allow the desecration of Desolation Flats!

Signature: Chet & Goldie Pitcher
Medicine Bow, 82329

LETTER 164

Duplicate of Letter 123

eog resources

EOG Resources, Inc.
600 Seventeenth Street
Suite 1100N
Denver, CO 80202
(303) 572-9000
Fax: (303) 824-5400

June 30, 2003

RECEIVED
JUL 2 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Mr. John Spehar, Project Coordinator
Bureau of Land Management
Rawlins Field Office
1300 North Third Street
Rawlins, WY 82301

RE: Desolation Flats Natural Gas Field Development Project Draft Environmental Impact Statement

Dear Mr. Spehar:

EOG Resources (EOG) submits the following comments with respect to the Desolation Flats Natural Gas Field Development Project Draft Environmental Impact Statement (DSFNGF DEIS) to the Bureau of Land Management (BLM). EOG is committed to the responsible production of oil and gas resources within the Desolation Flats natural gas producing area of south-central Wyoming. EOG and its employees are committed to abiding by the Operator-proposed mitigation measures, as detailed in Section 2.5.2.11, developed to ensure protection of the environmental resources in the Project Area.

Alternatives Development:

EOG supports the selection of alternatives analyzed in the DFNGF DEIS. The exclusion of an alternative that could be considered a sort of "natural resource conservation" alternative, called the "directional drilling" alternative in the DEIS, quite properly reflects the resource protection measures already included within the Proposed Action. The reasons given to justify the exclusion of mandated directional drilling are accurate. The Proposed Action includes feasible and economic measures that would be taken by operators to reasonably minimize surface disturbance and includes the use of multi-well pads. 1

Operator-Proposed Mitigation Measures:

The employment of the Operator-proposed mitigation measures in addition to the BLM's Standard Mitigation Measures would provide an adequate measure of environmental resource protection such that additional mitigation measures would not be needed.

energy opportunity growth

Air Quality:

The following comments are directed to the analysis of impacts to air quality.

- Impacts to air quality were measured against Colorado ambient air quality standards. Colorado lies south of the Project Area and is the nearest adjacent state. The DFNGF EIS states, however, the winds are predominantly from the south to the southwest (DFNGF DEIS, page 3-13). Prevailing winds would carry emissions associated with well development away from the state of Colorado, making impacts to Colorado's air quality unlikely. Its inclusion is the analysis is unnecessary. 2
- A number of the additional mitigation measures detailed in Section 4.2.5 are included in the DFNGF DEIS under Project-wide Mitigation Measures in Section 2.5.2.11. These include the commitments to use water or other approved dust suppressants on unpaved roads to reduce fugitive dust and the voluntary reduction of vehicle traffic speeds. Inclusion in Section 4.2.5 is redundant. 3
- Other additional mitigation measures detailed in Section 4.2.5 are irrelevant because of their impracticality. They include the replacement of diesel-fueled engines on drill rigs (described in the DFNGF DEIS as having no commercial substitute) and the construction of central tank batteries. Central tank batteries may not be feasible in some areas because of the distance between wells, which is governed by spacing rules and projected to be between two to four wells per section. Using electric engines on compressors would require a source of electricity at those locations where compressors are needed. The installation of aboveground electric power lines would be visually obtrusive and not economically feasible. 4
- Some additional mitigation measures detailed in Section 4.2.5 would require operators to install control devices that would decrease emissions below the levels set by Wyoming Department of Environmental Quality (WDEQ) regulations. For example, adding non-selective catalytic reduction devices would decrease NO_x levels to 70% of the allowable emissions by regulation. EOG strongly protests the requirement for emissions controls for engines that are operating within the regulatory limits of the State of Wyoming. The State of Wyoming has primacy over administration of the Clean Air Act within its boundaries. 5
- The analysis in the DFNGF DEIS was purported to not represent a formal PSD increment consumption analysis, stating that it is the responsibility of the Wyoming DEQ to conduct such an analysis if and when such an analysis becomes necessary. Therefore, without evidence developed by the state as a result of such an analysis, it is not reasonable for the BLM to require a NO_x emissions offset program for development of this Project at this time. Further, such a requirement exceeds the authority of the BLM. 6

- EOG supports the development of an air monitoring program within the state of Wyoming by the BLM in cooperation with the state, EPA, Southwest Wyoming Technical Air Forum, and other appropriate agencies/organizations. The accumulation of accurate data would decrease the BLM's reliance upon limited air quality data with which it must construct sophisticated models that may determine whether future projects, such as this project, are feasible. 7

Soils:

The following comments are directed to the analysis of impacts to soils.

- The final surface disturbance numbers should be utilized throughout the EIS analysis in place of the initial surface disturbance numbers for analysis throughout the document. Reclamation efforts currently practiced by industry as part of interim reclamation would fully restore disturbed areas to their original state within a short period of time. 8
- EOG supports the conclusion that there would be little to no impacts to soils after the implementation of Project Area mitigation measures. As stated in the DFNGF DEIS on Page 4-35, most of the predicted eroded soil would be contained on-site and would not be transported off-site. 9

Raptors:

The following comments are directed to the analysis of impacts to raptors.

- The DFNGF DEIS suggests closing roads located near active raptor nests. EOG supports this measure as long as operators are able to access their wells. Denying access to producing wells would prevent an operator's ability to perform routine maintenance and ensure that well site equipment is functioning properly. Road closure could result in unsafe conditions. EOG suggests that if a raptor establishes a nest that may possibly be impacted by vehicular traffic, use of the road should be prohibited to general public use but not to operators. Operator vehicle trips to producing wells would be minimized. 10
- The commitment to provide driver education to operator personnel is included in the DFNGF DEIS under Project-wide Mitigation Measures in Section 2.5.2.11. 11
- The proposed mitigation to disallow the construction of permanent aboveground structures within 300 meters or less....of any raptor nest (page 4-72)" unnecessarily prevents development near inactive or abandoned nests. 12

- Mitigation measures proposed in addition to the ones listed in Section 2.5.2.11 must be based on documented scientific evidence that is current and appropriate to the area being analyzed. The DFNGF DEIS should include citations to these studies within the document to support the need for additional restrictions. More detail is needed to support the validity of these proposed additional mitigations. 13

Wildlife:

The following comments are directed to the analysis of impacts to wildlife.

- DFNGF DEIS suggests that "when 4-5 wildlife resource concerns are present within a section (22 sections), the BLM may consider a reduction in the number of well locations (<4) allowed within that section if well placement does not adequately avoid the resources (page 4-72)." Other mitigation measures suggest that wells be limited in areas of crucial winter range and that some roads be closed if they are located in big game critical range. As the BLM is well aware, EOG and other operators are currently subject to extensive wildlife restrictions that regulate timing and placement of well locations. Developing a well requires a great deal of planning and expense, but in most cases, EOG has been able to successfully drill wells that avoid adversely impacting wildlife. Limiting the number of well locations in areas of high wildlife density is effectively a mandate to directionally drill from a fewer number of available locations. For reasons adequately described in the DFNGF DEIS in Section 2.6.2, the use of alternative drilling technologies should not be presumed to be feasible on anything but a well-specific basis. The use of directional drilling or any other non-conventional type of drilling or production technique cannot be presumed to be able to access minerals in those areas where operations are excluded or restricted. In addition, the use of these techniques would incur extra costs to the operator. Economic considerations may preclude their use. An operator's inability to extract minerals from its leases is a denial of the rights associated with lease acquisition and could be construed as a taking. BLM Instruction Memorandum 92-67 clarifies 43 CFR 3101.1-2, which provides for a 200 meter general standard within which surface-use restrictions must fall. For any surface-use restriction that exceeds the 200-meter/60-day rule, the BLM bears the burden of establishing that the restriction is justified. 14 14a
- "Avoiding" (Page 4-72) areas where four wildlife resources of concern overlap to reduce impacts is an unclear statement. Total avoidance may preclude mineral extraction, as described in the preceding bullet. 15
- Mitigation measures proposed in addition to the ones listed in Section 2.5.2.11 must be based on documented scientific evidence that is current and appropriate to the Project Area. The DFNGF DEIS should include citations to these studies within the document to support the need for additional restrictions. More detail is needed to support the validity of these proposed additional mitigations. 16

The ability to extract natural gas from the leased public lands in the Project Area helps to maintain a stable economic platform for the counties directly affected by the finalized EIS, makes an important contribution to the economic health of the State of Wyoming, and helps to satisfy the energy needs of our nation. The hydrocarbon resources that exist beneath public lands are, in fact, owned by the public. Oil and gas operators in the management area provide the means to access and develop these oil and gas reserves, providing much needed energy to meet public demand.

Sincerely,

Sheila Bremer

Sheila Bremer
Regulatory Coordinator

xc: Curt Parsons
Bob Davis

LETTER 165

(Duplicate of Letter 2)

ted kerasote
<tkerasot@wyoming.com>
06/19/03 09:12 PM

To: DesFlats_WYMail@blm.gov
cc:
Subject: to John Spehar, project coordinator

Dear John:

Many people who will write you letters about the Desolation Flats Project Area will have never been there. I have--many times--camping, hiking, driving through, scouting for deer and antelope. Wyoming is currently being hammered by oil and gas development, under enormous pressure from the federal government to achieve "national energy security." However, I don't like seeing my state trashed for this ephemeral goal, an unachievable one since only three percent of the world's oil and gas underlies U.S. soils. 1

I'd like to see Desolation Flats protected, but knowing that will nver happen, I'm imploring you to see that energy development is minimzed and what is done is done with an eye to protecting wildlife habitat. I don't have to go into the details about what that means. You know what it means. How about seeing for once that wildlife gets a fair shake instead of being analyzed to death under an adaptive management strategy while oil and gas wells sprout willy nilly.

Sincerely,
Ted Kerasote
Box 100
Kelly, Wyoming 83011

LETTER 166

Donna M Rosser
<dmrosser@juno.com
>
06/28/03 08:08 PM

To: DesFlats_WYMail@blm.gov
cc:
Subject: Re: Adobe Town and the Southern Red Desert

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

Dear Person:

I am writing about the proposed drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats. The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, and wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
>
Protect all lands within the Adobe Town citizens' proposed wilderness. In the project area there are almost 50,000 acres of wilderness-quality lands adjacent to the existing Adobe Town Wilderness Study Area. These lands should be protected by incorporating them into the larger, existing WSA. 1
>
Provide a sufficient analysis of the impacts of the proposed project. The BLM has not given the public the detail needed to provide for a sufficient analysis of the impacts of the project. For instance, the agency states that there will be 385 wells drilled and about 500 miles of new roads constructed in the project, but does not identify the locations of either the wells or the roads. Without these crucial details, impacts to wildlife, recreation, and visual quality of the area cannot be accurately analyzed.
>
Mandate the least environmentally damaging types of drilling. Directional drilling should be required in the proposed Desolation Flats project to reduce impacts to wildlife, recreation, and landscapes.
>
I would appreciate it if the BLM would take into consideration my comments. Thank you.

Donna Rosser
DMRosser@juno.com

LETTER 167

Public Lands Advocacy

Claire M. Moseley
Executive Director

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July 1, 2003

Mr. John Spehar, Project Coordinator
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1300 North Third Street
Rawlins, WY 82301

RE: Desolation Flats Natural Gas Field Development Project Draft Environmental Impact Statement

Dear Mr. Spehar:

On behalf of Public Lands Advocacy (PLA), following are comments on the Desolation Flats Draft Environm
Impact Statement (DEIS). PLA is a nonprofit trade association whose members include independent and ma
and gas producers as well as nonprofit trade and professional organizations that have joined together ta
environmentally sound exploration and production on public lands. As such, PLA supports the proposed
contained in the DEIS and encourages BLM to move forward with approval of the project without delay. In a
we fully support and incorporate by reference all comments submitted by project proponents.

In order to meet the challenge of a projected 30 percent increase in the demand for natural gas in the near
is crucial for BLM to facilitate responsible development of this resource, such as that found in southern Wyor
A key factor that BLM must take into account is that over the past 10 years, the annual depletion rate of natu
has grown from 16 percent to 28 percent. In other words, approximately 25 percent of existing natura
production must be replaced each year **just to stay even.** While conservation and possible imports of liqu
natural gas will certainly play a role in meeting projected demands, the best short-term solution is for the fe
government to take measures to foster responsible development of the domestic natural gas resource. Expo
develop must occur on federal lands if the nation is to meet its short-term and long-term energy needs.

PLA's comments will focus on aspects of the NEPA process rather than resource-specific issues that are being
addressed by project proponents.

RANGE OF ALTERNATIVES

The range of alternatives analyzed in the project level DEIS is appropriate and meets the requirements of the National Environmental Policy Act (NEPA). In order to achieve the mandatory "hard Look" NEPA requires, it is necessary only to analyze the proposed action, a no action alternative, which would limit new drilling to case-by-case consideration, and an alternative that analyzes a maximum development scenario. Additional alternatives would simply serve to delay the analysis process and, hence, further delay the proposed project. 1

⇨Expanded Wilderness Alternative

BLM's decision not to analyze an expanded wilderness alternative proposed by environmental groups for the
Town Wilderness Study Area (WSA) is completely warranted. Not only were these areas found unsuitable for
wilderness designation in the BLM Wilderness Inventory Process conducted in the 1980s, consideration of
additional wilderness is inappropriate at this project level analysis stage because it is not a federal land use
planning document where land allocation decisions are made. 2

However, PLA strongly objects to the language found on pages 2-42 and 2-43 where it is stated that "*Prior to
completion of the Great Divide RMP revision process, any application for development received by the Rawlir
Field Office within that portion of the Citizens' Proposal found by BLM to contain wilderness values, would be*

*considered through a site-specific NEPA analysis. If proposed development activities were found to impair
wilderness values, the application would be denied until completion of the Great Divide RMP revision. Any
application received by the RSFO would be considered through the planning review process and possible plar
amendment."* While we agree that all drilling activity is subject to a site-specific NEPA analysis, valid existing le
rights take clear precedence over any current or potential wilderness value, particularly if leases were issued p
to a land use decision that may exclude exploration or development activities. BLM may recall the acceptan
valid existing rights within the Grand Staircase-Escalante National Monument in which Conoco had valid existir
lease rights. The Department of Interior (DOI) found it had absolutely no authority to ban drilling on a valid exis
lease that did not contain a "no surface occupancy" (NSO) stipulation. This same rule applies to any and all le
and associated activities that may occur within citizens' proposed wilderness areas.
Furthermore, as a result of the DOI's settlement with the State of Utah, it is against policy to give "citize
wilderness proposals" special management consideration outside the land use planning process. Specifica
was stated in the Summary of the Settlement Agreement (posted on the Department's web site), "*Interior pl
consider wilderness inventories and recommendations from wilderness advocates in its planning process and
anticipates that many areas will be managed in their natural state to preserve wilderness characteristics.
areas may be managed in a natural state except Interior plans to consider wilderness inventories
recommendations from wilderness for fire prevention efforts, wildlife habitat improvements, or enha
recreational access-none of which would be possible under a formal wilderness designation."* (Emphasis adde
To that end, the Wilderness Handbook adopted under the previous administration was rescinded. In a lett
Senator Pete Domenici (R-NM) and Chairman of the Senate Energy Committee (posted on the Departm
website), DOI states, "*The Department believes "The Wilderness Handbook" and related BLM guidance is
consistent with the law and we intend to withdraw the Handbook and modify the related guidance. Fi
Handbook requires that upon inventorying new areas as having wilderness characteristics, the BLM must ma
them as if they were "Wilderness Areas," notwithstanding the explicit reservation of this authority to Congress.
administrative direction to the BLM disregards the fact that the BLM has already conducted an exha
fifteen-year review and is currently managing more than 22 million acres of BLM land as "Wilderness,"
accordance with the 1964 Wilderness Act and with FLPMA. It also ignores the fact that "Wilderness Areas"
managed, by law, for a single and statutory exclusionary use, and that any administrative decision to manag
lands as "Wilderness Areas" outside of the 1964 Wilderness Act, violates clear congressional direction."*
Clearly, BLM's decision to defer any wilderness expansion proposals to the land management planning proces
appropriate and consistent with Department policy. However, the language cited above must be changed
new policy and to recognize valid existing lease rights. Therefore, we strongly recommend that the applicable
changes be made to the final project EIS. 2

⇨Directional Drilling Alternative

PLA also fully supports the dismissal of "directional drilling" alternative from the analysis. Directional drilling is no
surface resource decision, but, rather a subsurface resource decision. Furthermore, the proposed action provi
for directional drilling in circumstances where it is technologically and economically feasible. Therefore, no
additional alternative that addresses directional drilling is necessary.

It must be recognized that it is literally impossible to make assumptions that industry can directionally drill in any
situation. That was plainly demonstrated by previous directional drilling projects undertaken by Union Pacific
Resources and by others in the Wamsutter Field. Determinations of the feasibility of directional drilling or any o
unconventional drilling technology can be made only by the operator. Additionally, the feasibility of direction
drilling technology can only be reasonably determined on a well-specific basis. Moreover, directional drilling i
typically used for certain field development wells rather than exploration activities. It must also be considered
while 63 wells are currently producing in the project area, the majority of new wells will be exploratory due to t
lack of subsurface information currently available. Exploratory drilling is already a difficult and expensive
undertaking because it is an attempt to determine where a structure may occur without the added knowledg
data from previously drilled wells in the area. The technical limitations of directional drilling do not make it a re
tool for most exploration wells. Additionally, directional drilling is unpredictable and costly in areas with excessi
gas production because well control becomes difficult and the odds of encountering serious well control prob
are radically increased. Formations that require sharp, high angle deviations are also not good candidates fo
directional drilling. Deviated wells may also be problematic, even in the production stage, due to the high an
in the pipe. The exponential increase in cost coupled with increased mechanical challenges could prevent m 3

LETTER 167 cont'd

PLA Comments on Desolation Flats Natural Gas Field Development Project
July 1, 2003

Page 2

directional projects from ever being drilled and, if forced upon the operator, in direct violation of valid existing rights which could constitute a "taking" of property rights.

CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES

PLA concurs with the approach taken in Chapter 4 in that while it identifies an array of potential impacts that c to occur to specific resources and values without mitigation, descriptions of mitigation measures are included i clearly demonstrate that the gas industry has many tools at its disposal to minimize potential adverse effects associated with natural gas exploration and development.

PLA, and previously the Rocky Mountain Oil and Gas Association (RMOGA), have espoused this method of disclosure and analysis for years. Therefore, we are pleased that BLM has listened and correctly incorporated t requirements of the NEPA regulations at 40 CFR 1502-2 in the analysis. We can only hope that this same approach will be utilized in the revision of the Great Divide Resource Management Plan. 4

REASONABLE FORESEEABLE DEVELOPMENT SCENARIO

PLA has noted that BLM has included a Reasonably Foreseeable Development Scenario (RFDS) in the DEIS to aid the agency in determining potential cumulative effects of the project. While we support the concept and use of the RFDS, PLA disagrees with the notion that the DEIS or RFDS should be used to establish a fixed number of wells that can be drilled in the project area over a certain period of time. In our view, the RFDS is simply a tool for use in the analysis that allows BLM to assess the types of impacts that could occur as a result of development in the area. It is important for BLM to retain flexibility in its decision-making process by acknowledging that many tools are available to minimize surface disturbance which could be utilized to allow additional development beyond that analyzed in the DEIS. 5

PLA appreciates this opportunity to provide you with our views and comments. Please do not hesitate contac should you have any questions.

Sincerely,

/s/ Claire Moseley

Claire M. Moseley

Cc: Robert Bennett – WY BLM State Director
Del Fortner – WO Fluids Manager

LETTER 168

ashulsta
<ashulsta@uwyo.edu>
Sent by:
ashulsta@uwyo.edu

07/02/03 12:07 PM

To: DesFlats_WYMail@blm.gov
cc:
Subject: Please reconsider

Hi,
My name is Andy Shulstad, I am a student at the University of Wyoming in Laramie. I believe the BLM's decision to allow drilling in the Desert Flats area of the Red Desert is not a sound decision. For one thing, there is already an enormous impact on our sensitive dry environments in the state. The recent CBM developements in the Powder River Basin is drastically altering the native plant and animal communities both in the PRB and everywhere downstream of the Powder River. It would be even further devestating to the state to destroy more of its precious wildlands and beautiful undeveloped lands. Secondly, the drilling project will provide the state with some income, but it will be short-lived, and will likely only be through taxes on the minerals extracted, not through new jobs, which the state needs much more. As with the CBM drilling in the PRB, I am guessing most of the jobs running the project will be filled by employees brought from out of state with the oil and gas industries.
I have visited this area several times to explore its wonderful scenery and wildlife. The elk herd in the area is definitely worth protecting. As well, as developements are made on the land, the area will be much less likely to be visited by myself and others who wish to visit pristine lands that are in the same state as they were pre-settlement times. This is destroying an economic benefit that longer lasting, and much more likely to grow as other areas undergo developements like this drilling project. 1

Thanks for your consideration,
Andy Shulstad

LETTER 169

Bryan Wyberg
12854 Raven Street NW
Coon Rapids, MN 55448
bryan.wyberg@honeywell.com

June 30, 2003

Bureau of Land Management
Rawlins Field Office
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301
DesFlats_WYMail@blm.gov

RECEIVED
JUL 7 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Cc: Secretary Gale Norton
U. S. Department of the Interior
1849 C Street NW
Washington, DC 20240

Senator Craig Thomas
United States Senate
307 Dirksen Senate Office Building
Washington, DC 20510

Dear Mr. Spehar:

I am writing to provide official comments on the Draft Environmental Impact Statement for the Desolation Flats Project Area. I have visited this region of Wyoming, and so I am familiar with the type of landscape and lands contained in the Desolation Flats Project Area. I love the remoteness of the lands and the beauty of the landscape. I believe that this Project Area has a now-rare character which evokes the legendary Old West. It is my belief that future generations should also be able to experience this same sensation, and to feel the same awe at the open expanse of this section of the Great Divide.

However, the only way to ensure that those future citizens will be given this opportunity is if the BLM today chooses to manage these lands in a more protective manner. I am a supporter of the full 92,000+ acre Adobe Town Wilderness Study Area expansion proposal as put forward by citizen groups such as the Wyoming Outdoor Council. I know that the BLM is familiar with this proposal. I am very concerned that a portion of this expanded Wilderness Study Area proposal is included in the boundary of the Desolation Flats Project Area. ***My first and foremost request is that all lands within the full citizen's Adobe Town Wilderness Proposal be excluded from any and all forms of development and resource extraction.*** 1

Second, the name given to the Project Area is a misnomer. These lands are not "desolate," but are in fact prime habitat for big game wildlife as well as the small, though very important species, prairie dogs. Wild animal range lands and migration corridors occur within the Project Area. I ask that the BLM be sensitive to the existence of the patterns of use by wildlife of these lands. Management of this area, and any development permitted, must fully account for the wildlife. Prairie dog colonies must not be disturbed, and should be used for introduction of endangered black-footed ferrets. Note that the long-term economic value of the big game herds and associated recreation far exceeds that of the short-term energy extraction profits. For the economic benefit of Wyoming citizens, the wildlife should come first. ***The BLM must place the continued viability of any wildlife habitat as its top priority, above resource extraction.***

It would be a travesty to learn that the extractive industries are given free rein in the Desolation Flats Project Area, as they have been in other regions of Wyoming. The Great Divide region as a whole is being eyed greedily by the energy industry supporters of the Bush Administration. They wish for an unbalanced policy of lands-use management. Yet this is a region of wild beauty and wildlife habitat that many citizens want to see preserved for future generations. ***Thus the BLM is obligated to take a truly balanced management policy for this Project Area.***

To be balanced, substantial portions of these lands must be preserved as wilderness, just as substantial areas will be given over to resource extraction. This region must be acknowledged by the BLM as special, and large portions be left free from devastation. I believe that the BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains. Also to be withdrawn from development are remaining roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and land within three miles of sage grouse leks or within one mile of active raptor nests. ***In sum, the BLM plan must prohibit drilling in environmentally sensitive areas, including all wilderness quality lands, roadless lands, and important wildlife habitats.***

The BLM plans should also outline how energy development will proceed on the lands in which it is allowed. There must be strict permitting and oversight controls. Environmental protection must be strong and enforced adequately in those areas under development. Drill pads must be concentrated so as to impact the least amount of acreage. Directional drilling techniques must be required, rather than a multiplication and concentration of the number of drill pads. I expect that the BLM will be a good steward of my lands when they are in the use of private interests for their economic gain. ***I expect the BLM will allow only the least damaging drilling techniques and development patterns.*** 1

A major concern of mine is that the BLM preferred plan does not go into the detail needed to provide for a sufficient analysis of the impacts of extraction projects. For instance, the DEIS states that there will be 385 wells drilled and about 500 miles of new roads constructed under the preferred plan, but does not identify the locations of either the wells or the roads. Without these crucial details, impacts to wildlife, recreation, and visual quality of the area cannot be accurately described. ***The BLM must ensure limited impacts to wildlife and wilderness recreation resources by providing a sufficient analysis of the impacts of all proposed developments in the Project Area.***

In summary, I believe that conservation principles must be better integrated into the final management alternative selected by the BLM. ***I support the development of a Conservation Alternative to be selected as the preferred alternative of the Final Environmental Impact Statement for the Desolation Flats Project Area.*** We need a new alternative designed to mandate a land management plan that has a balance of managed uses, and is not a sacrifice of this area to the extractive industries. It should focus on the conservation of the natural resources of the area, its wildlife, its beauty, and its wilderness characteristics. Only this will fulfill the goal that this area is passed to future generations untrammeled. This is what future generations deserve of us.

Sincerely,
Bryan Wyberg

(Continued)

LETTER 170

Ms. Ruth A. Mains
P.O. Box 965
Laramie, WY 82073

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 7 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

22

Dear Mr. Spehar,

The Desolation Flats project area contains spectacular public lands. In order to ensure adequate protection for the magnificent scenic and recreational value of the area as well as its outstanding wildlife habitat, I ask the Bureau of Land Management to:

- **Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.** The BLM should withdraw from leasing or require "No Surface Occupancy" for oil and gas drilling on floodplains, roadless lands, wilderness quality lands, crucial elk and deer winter ranges, prairie dog colonies, mountain plover habitat, and within three miles of sage grouse leks and one mile of raptor nests.
- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wildnerness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
- **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values.
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes. 1

Signature: Ruth A. Mains

LETTER 171

[redacted]

Mr. Tom Bougsty
714 Hyde Merritt Rd
Cheyenne, WY 82009

Please include full name and address

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

RECEIVED
JUL 7 2003
BUREAU OF LAND MANAGEMENT
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Signature: Tom Bougsty, Randy S. Marshall

LETTER 172

Jill and Terry Yarger
1221 E. 23rd St.
Cheyenne, WY 82001-3941
Please include full name and address

RECEIVED
JUL 7 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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1

Signature: Terry Yarger

LETTER 173

Dalmey
803 S. 12th
Laramie Wy
Please include full name and address
82070

RECEIVED
JUL 7 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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1

Signature: Laura L. Dalmey, 803 S. 12th Street, Laramie

LETTER 174

Stephanie A Olson
1017 Garfield, A
Laramie, WY 82070
Please include full name and address

RECEIVED
JUL 7 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature:

LETTER 175

Please include full name and address

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JUL 7 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: GABOR VALI, LARAMIE

LETTER 176

Ms. Misty Heil
4100 Ridge Rd.
Cheyenne, WY 82001-1757
Cheyenne, WY 82001

Please include full name and address

PM

RECEIVED
JUL 8 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: Misty Heil

LETTER 177

Sharon Stewart
158 N. Hodgeman St.
Laramie, WY 82072

Please include full name and address

EAU CLAIRE WI 547
PM

RECEIVED
JUL 10 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301+2407 22

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Signature: Megan Haylett

LETTER 178

Mary Jo McLaughlin
2600 W B St.
Torrington, WY 82240-1935

Please include full name and address

TORRINGTON WY 2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

JUL 11 2003

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Signature: Mary Jo McLaughlin
Torrington, WY 82240

LETTER 179

Mary Jo McLaughlin
2600 W B St.
Torrington, WY 82240-1935

Please include full name and address

TORRINGTON WY 2003

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

JUL 11 2003

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- **Protect all lands within the Adobe Town citizens' proposed WSA.** In the project area there are almost 50,000 acres of wildnerness-quality lands adjacent to the existing Adobe Town WSA. These lands should be protected by incorporating them into the larger, existing Wilderness Study Area.
- **Adopt a Conservation Alternative in the FEIS.** The FEIS must not only have a conservation (or true no action) alternative, but also adequate mitigation and monitoring measures to ensure proper protection for the area's special values. 1
- **Mandate the least environmentally damaging types of drilling.** Directional drilling should be required in the Desolation Flats Final EIS to minimize impacts to wildlife, recreation, and landscapes.

Signature: Mary Jo McLaughlin
Torrington, WY 82240

LETTER 180

David & Kathy Richmond
HC 67 680 680
Clayton, ID 83227

Please include full name and address

POCATELLO ID 832
PM
02 JUL 2003

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RECEIVED
JUL 11 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

82301X2407 B022

Dear Mr. Spehar,

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Signature: ______________

David & Kathy Richmond
HC 67 680 680
Clayton, ID 83227

LETTER 181

Chet & Goldie Pitcher
P.O. Box 301
Medicine Bow, WY 82329

Please include full name and address

USA 2

82329

RECEIVED
JUL 11 2003
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE

Bureau of Land Managment
John Spehar, Project Coordinator
PO Box 2407
Rawlins, WY 82301

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Signature: Chet & Goldie Pitcher
Arlington / Medicine Bow

SECTION 5:

RESPONSE TO COMMENTS

SECTION 5: RESPONSE TO COMMENTS

Responses to comments are organized by responder and are numbered in the order received. Page and section numbers, unless otherwise noted, refer to the draft EIS issued in April 2003. Comments are summarized here for continuity of response to comment. For full comment text refer to the subject letter number in Section 4.

COMMENT LETTER 1: GENE R. GEORGE, GENE R. GEORGE AND ASSOCIATES, INC. FOR YATES PETROLEUM CORPORATION

Comment 1-1: It should be noted that under the Wildlife Section that many of the mitigations may be waived by the Authorized Officer as the circumstances warrant.

Response: Thank you. Noted.

Comment 1-2: Page 2-39 last bullet on the page. This should be rewritten to state: "To protect migratory birds and wildlife in general, all reserve pits and temporary workover pits that contain materials potentially hazardous to wildlife would be fenced and that other pits and areas that contain materials potentially hazardous to wildlife would possibly be both netted and fenced, in accordance with BLM requirements". Essentially, reserve pits and workover pits only contain RCRA exempt materials and not "hazardous wastes".

Response: BLM believes the existing text adequately covers the condition. There will be pits that do not require netting and fencing, but ANY pit with hazardous materials in it will require netting and fencing.

Comment 1-3: Page 3-39, 3.4.2.3 Waters of the US, It might aid to reference the COE General Permit 98-08 which considers most oil and gas disturbances.

Response: Many actions may fall under permits issued by the COE. 98-08 permitting may or may not be used depending on the specifics of the situation. Actions proposed and approved under the Desolation Flats EIS Record of Decision will comply with the provisions of Section 404 of the Clean Water Act.

Comment 1-4: Page 4-119, Figure 4-15. It appears that the Federal Mineral Royalties block in the diagram representing $1,609,000 is equal to the line representing $1,500,000.

Response: Thank you for your observation. Corrections to the socioeconomic analyses in Chapter 4 have been made. Please see the Errata, Section 2 of the FEIS for these corrections.

Comment 1-5: Page 5-11, 5.3.2.3 Cumulative Visibility Impacts, The CalPuff model, using the IWAQM/FLAG method is extremely conservative. Only a model can calculate a 1/2dv change. To a human eye, a one half of a perceptible change in visibility is impossible by definition. Yates applauds the conclusion that it is background rather than the DF project that affects nearly all of the modeled changes.

Response: New analysis for the FEIS further details the effects anticipated for the DFPA air quality.

Comment 1-6: Page 5-25 5.3.10 Visual Resources, The analysis of determining that a few "viewers" would be dissatisfied is short sighted. The oil and gas activity is short term relative to Wyoming's history. All of the oil and gas activity will be reclaimed and the viewshed will become "historical" within a lifetime.

Response: The BLM notes that your assertion is correct This impact is important to be disclosed and discussed because those here and now will, based on each person individual values, needs, and priorities, be impacted by the change in viewshed.

Comment 1-7: Page H-5, Table H-2, Yates applauds this type of monitoring. Yates is extremely interested in the actual (not perceived) impact of its oil and gas activity. Yates participates in this same type of monitoring and mitigation elsewhere on the BLM lands and it is working well.

Response: Thank you for your comment.

COMMENT LETTER 2: TED KERASOTE

Response: Thank you for your comment.

COMMMENT LETTER 3: DAVE KELSER

Response: Thank you for your comment.

COMMENT LETTER 4: CAROL AND MEL LONG (Note: As this comment was received from approximately 139 commenters (Letter Numbers 5, 6, 8, 9, 12, 14, 15, 16, 17, 18, 19, 20, 21 , 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45 ,47 ,48 ,49 ,50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 61, 62, 63, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97,98, 100, 101, 103, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 147, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 163, 166, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, and 181) the BLM's response is directed at all of those comments.)

Comment 4-1: Avoid drilling in environmentally sensitive areas, protect all lands in the Adobe Town citizen's proposed WSA, adopt a conservation alternative in the FEIS, mandate the lease environmentally damaging types of drilling.

Response: *Avoid drilling in environmentally sensitive areas such as wilderness quality lands, roadless lands, and important wildlife habitats.*

It is the BLM's intent to avoid drilling in environmental sensitive areas as much as it can. Withdrawing lands from leasing is outside the scope of the Desolation Flats EIS process, and cannot properly be considered in this forum. The Adobe Town wilderness study (ATWSA) area is outside but adjacent to the Desolation Flats project area (DFPA). Lands believed to be of wilderness quality are located within the DFPA, and are being considered for inclusion with the ATWSA in the Rawlins Resource Management Plan (RMP) as detailed on page 2-42 and 2-43 of the Draft Environmental Impact Statement (DEIS). As detailed on page 2-43 of the DEIS if proposed development activities are found to potentially impair wilderness values within those areas, the application would be denied pending the outcome of the RMP review process.

The BLM does not have a "roadless lands" category in its land management scheme, but as detailed on page 2-9, any roads will be located to minimize disturbance and maximize transportation efficiency.

While all habitats within the DFPA are considered important habitat to one degree or another, habitats occupied by, or potentially occupied by threatened, endangered, or sensitive species (TES) often have occupancy constraints including avoidance where possible and surveys and mitigations to avoid serious impacts.

Protect all lands within the Adobe Town citizen's proposed WSA.
As detailed above some lands within the ATWSA have been observed to have wilderness characteristics. Development activities within those areas will be denied until such time as a decision is made under the RMP revision process to include or exclude those lands from the ATWSA. Some lands within the citizen's proposed WSA have been found not to have wilderness quality. Proposed development activities within those areas, if any occur, will be considered and may be approved.

Adopt a Conservation Alternative in the FEIS
The Desolation Flats EIS contains three alternatives as detailed within the EIS. None of these alternatives are labeled as a "conservation" alternative per se, but each of them assess different levels of development and environmental impacts. Mitigation and monitoring measures to ensure proper protection for the area's special values are found in Chapter 2, at section 2.5.2.11, and in Chapter 4 in sections labeled "Additional Mitigation Measures".

Mandate the least environmentally damaging types of drilling.
Chapter 2, page 2-43 to 2-44 Section 2.6 entitled "Alternatives Considered but Eliminated From Detailed Study" has details on why mandating directional drilling is not an alternative considered in detail. Further insight to directional drilling can also be found on the internet at: http://www.wy.blm.gov/nepa/rsfodocs/vernbasin/VBPA-well-architecture-letter.pdf.

COMMENT LETTER 7: JOHN WAHL

Response: Thank you for your comment.

COMMENT LETTER 10: LINDA J. COOPER

Response: Thank you for your comment.

COMMENT LETTER 11: BUCK TILTON

Response: Thank you for your comment.

COMMENT LETTER 13: KENNETH JOHN GILMOUR

Response: Thank you for your comment.

COMMENT LETTER 46: LIELA BRUNO

Response: Thank you for your comment.

COMMENT LETTER 60: WILLIAM L. BAKER

Response: Thank you for your comment.

COMMENT LETTER 64: SCOTT EHRINGER

Response: Thank you for your comment.

COMMENT LETTER 81: JUDITH K. POWERS

Response: Thank you for your comment.

COMMENT LETTER 82: MEGAN PLANT

Response: Thank you for your comment.

COMMENT LETTER 83: BARB PARSONS

Response: Thank you for your comment.

COMMENT LETTER 99: MARY LOU MORRISON

Response: Thank you for your comment.

COMMENT LETTER 102: DRU BROWER, PETROLEUM ASSOCIATION OF WYOMING

Comment 102-1: Applicant committed measure comments.

Response:
1. BLM believes the proposed project has provided sufficient mitigation to protect the environment.
2. BLM agrees with this assertion.

3. Based on many years of monitoring and adaptive management based on problems and crossing failures, BLM believes drainage crossing structures should meet the 50 year discharge event standards for this project.
4. BLM agrees with this statement.

Comment 102-2: PAW agrees with BLM stance on wild horses.

Response: The BLM has recently implemented a program for controlling wild horse herd levels, and hopes funding and approval will continue to be forthcoming.

Comment 102-3: BLM has significant flexibility in developing protective measures for Greater Sage-Grouse.

Response: The BLM will consider the effects of restrictions on the oil and gas operator as part of its adoption of reasonable and prudent mitigation measures to minimize impacts on wildlife.

Comment 102-4: PAW opposes the extreme mitigation measure "In areas of overlapping big game crucial range, the number of locations may be reduced (less than 4) in order to minimize habitat loss..."

Response: The reason additional potential mitigation measures in Section 4.7.5 are proposed is detailed in Chapter 4, particularly Section 4.7.6. The BLM feels there is adequate support to include these measures in the DFPA process and Record of Decision when it is made.

Comment 102-5: The status of the Mountain Plover as "proposed for listing" allows for flexibility in developing protective measures for the species.

Response: The BLM will consider the effects of restrictions on the oil and gas operator as part of its adoption of reasonable and prudent mitigation measures to minimize impacts on wildlife.

Comment 102-6: Page 4-78, 4.8.1.4, Additional Mitigation Measures. The BLM has no authority to mandate this requirement.

Response: The BLM has the authority and responsibility to require mitigations it feels are necessary prior to approving relevant actions.

Comment 102-7: Appendix H, Wildlife Monitoring/Protection Plan. Should all the provisions in this section be implemented, BLM will be overwhelmed with data.

Response: As the extent of oil and gas development grows in the Rawlins Field Office, we have observed that traditional monitoring processes may need to be adaptively managed to allow more effective and less time consuming and costly monitoring. The use of MMS royalties for funding monitoring surveys is outside the scope of the DFPA EIS process.

Comment 102-8: Socioeconomics are an important part to this cumulative analysis and were appropriately incorporated into the EIS.

Response: Thank you for your comment.

Comment 102-9: Industry recognizes the importance of protecting the environment while developing the much needed natural resources to markets throughout the nation.

Response: Thank you for your comment.

COMMENT LETTER 104: DAN TEIGEN, CHAIRMAN, NORTHERN PLAINS RESOURCE COUNCIL

Response: BLM apologizes for this oversight. Thank you for your comment.

COMMENT LETTER 105: TRACY J. WILLIAMS, OFFICE OF THE GOVERNOR, STATE OF WYOMING

Comment 105-1: We ask that you review the amount of state acreage within the project area so as to have an accurate count.

Response: The acreage totals reflected in Chapter 1, Table 1-2 and 1-3 have been reviewed. Perhaps the discrepancy is related to the fact that surface ownership and subsurface mineral ownership is not always the same. A quick review of our subsurface mineral ownership records showed 14,271 acres of ownership, much closer to the figure you mention. The BLM will look into this issue and correct any discrepancies found.

Comment 105-2: We ask that you review the amount of state acreage within the project area so as to have an accurate count.

Response: See Response to Comment 105-1.

Comment 105-3: Thank you for the opportunity to review this project.

Response: Thank you for your comment.

Comment 105-4: Outdated information provided in the analysis should be updated.

Response: The air quality analysis provided in the DEIS has been changed to reflect Wyoming DEQ concerns. Please see text changes to the air quality analysis in both Chapter 3 and Chapter 4 of the DEIS that are included in the Errata, Section 2 of this FEIS.

Comment 105-5: Outdated information provided in the DEIS should be updated.

Response: See response to comment 105-4.

Comment 105-6: Page 1-20, Table 1-6 Add Air Quality Division Actions to Table 1-6.

Response: Table 1-6 was be updated to describe Wyoming Department of Environmental Quality, Air (see Errata section).

Comment 105-7: Page 3-19, Table 3-8, the listing of WAAQS is incomplete.

Response: According to Cara Casten of WDEQ, the new PM 2.5 and O3 standards have not been implemented in Wyoming. Therefore the WDEQ is currently not requiring compliance demonstrations for these standards.

Comment 105-8: Page 3-19, Table 3-8. The Division notes that several background pollutant concentrations are outdated.

Response: The document was updated with the new background values.

Comment 105-9: Page 3-20, Paragraph 5 Specify the type of IMPROVE data.

Response: Document was revised in accordance with the comment.

Comment 105-10: Page 3-20 More current IMPROVE data have become available.

Response: Chapter 3 was revised to reflect the most current background data. Chapter 4 remained unchanged and impacts are still compared to the same background values as appropriate for the 1995 inventory date used for this study.

Comment 105-11: Page 3-21, Table 3-9. Refrain from using the term "baseline."

Response: The term "baseline" was edited except when specifically referring to PSD.

Comment 105-12: Page 4-13 Specify the type and size of compressor engines assumed for the analysis.

Response: We appreciate the DEQ providing updated engine emissions data resulting from the application of the BACT process that were not available at the time of the analysis. Assumptions concerning potential compressor equipment were presented.

Comment 105-13: Page 4-22 Inconsistencies are noted between the DEIS and AQTR documents.

Response: A draft version of the AQTR document was inadvertently distributed to team members. The most current version of the AQTR document has been posted on the BLM website. Consistency between the documents has been verified. A revised AQTR will be released with the final EIS.

Comment 105-14: Page 4-25 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-15: Page 4-24 Explain why different visibility data sets were used in Chapter 3 and the analysis.

Response: In our opinion, the best available data for demonstrating existing visibility conditions and long term visibility trends within Chapter 3 is the 5 year rolling average IMPROVE aerosol data set.

Background visibility conditions consistent with a 1995 emissions inventory date were utilized for the analysis.

Comment 105-16: Page 4-27 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-17: Page 4-28 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-18: Page 4-29 Mitigation Measures

Response: Suggested text provided by the DEQ was incorporated into the revised text.

Comment 105-19: Page 4-29 NOx Mitigation – Delete the first bullet.

Response: Updated mitigation information was incorporated in the document.

Comment 105-20: Page 4-29 NOx Mitigation – third bullet.

Response: Updated mitigation information was incorporated in the document.

Comment 105-21: Page 4-30 Mitigation monitoring.

Response: The document has been revised to present the NOx tracking currently being conducted.

Comment 105-22: Page 5-6 Air Quality Division

Response: The document was revised as requested

Comment 105-23: Page 5-6 RFD emission scenarios.

Response: All results are based upon the moderate RFD emissions scenario. Discussions concerning the conservative RFD emissions scenario were previously removed from the final draft Technical Support Documents.

Comment 105-24: Page 5-10 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-25: Page 5-11 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-26: Page 5-13 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-27: AQTR Emission Inventory page 6 Seasonal weighting factors.

Response: Citation was added as requested.

Comment 105-28: AQTR Emission Inventory page 9 Specify the type and size of compressor engines.

Response: Refer to Comment 105-12 Response.

Comment 105-29: AQTR Sub-Grid Report page 3 WAAQS listing is incomplete.

Response: Refer to Comment 105-7 Response.

Comment 105-30: AQTR Sub-Grid Report page 3 Background concentrations are out of date.

Response: Refer to Comment 105-8 Response.

Comment 105-31: AQTR Sub-Grid Report page 8 Spelling error.

Response: Document corrected as suggested.

Comment 105-32: AQTR Sub-Grid Report page 9 Spelling error.

Response: Document corrected as suggested.

Comment 105-33: AQTR Sub-Grid Report page 18 Document assumptions.

Response: Entire HAPs analysis was updated utilizing current reference concentrations and cancer risks factors.

Comment 105-35: AQTR Near and Far Field Report page 2 Change "Chapter" to "Section"

Response: Text corrected as requested.

Comment 105-36: AQTR Near and Far Field Report page 30 Spelling error.

Response: Text corrected as requested.

Comment 105-37: AQTR Near and Far Field Report page 32 Spelling error.

Response: Text corrected as requested.

Comment 105-38: AQTR Near and Far Field Report page 80 Table 5-3.

Response: Table expanded as requested.

Comment 105-39: AQTR Near and Far Field Report page 93 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-40: AQTR Near and Far Field Report page 95 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-41: AQTR Near and Far Field Report page 96 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-42: AQTR Near and Far Field Report page 98 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-43: AQTR Near and Far Field Report page 99 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-44: AQTR Near and Far Field Report page 100 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

Comment 105-45: Page 5-11 Inconsistencies are noted between the DEIS and AQTR documents.

Response: Refer to Comment 105-13 Response.

COMMENT LETTER 106: KENNETH CRECKEL

Response: Thank you for your comment.

COMMENT LETTER 107: BRYAN WYBERG

Response: Thank you for your comment.

COMMENT LETTER 123: SHEILA BREMER, EOG RESOURCES

Comment 123-2: Impacts reported for areas located in Colorado should be omitted.

Response: For short periods of time, the winds may blow from the project area towards Colorado. Therefore the inclusion of the potential impacts within Colorado is appropriate for this analysis.

Comment 123-3: Mitigation measures discussed in Section 4.2.5 are redundant.

Response: It is appropriate to address all air quality related mitigation measures in Section 4.2.5.

Comment 123-4: Some mitigation measures may be impractical.

Response: It is not necessary for mitigation measures to be practical under all potential circumstances.

Comment 123-5: Some mitigation measures would require controls below levels set by WDEQ.

Response: BACT is a process, not a fixed emission limit. Appropriate controls and resulting emission limits will be determined by the WDEQ during the permitting process.

Comment 123-6: It is not reasonable for the BLM to require a NOx emissions offset program for the development of the project.

Response: An NOx offset program under the control of the BLM was never stipulated in the document.

Comment 123-7: EOG supports the development of an air monitoring program.

Response: EOG's support of ongoing and future monitoring/tracking programs is appreciated.

Comment 123-12: The proposed mitigation to disallow the construction of permanent aboveground structures within 300 meters or less.... of any raptor nest page 4-72 unnecessarily prevents development near inactive or abandoned nests.

Response: The BLM feels in some cases in may be necessary to require this mitigation to protect raptors who use, abandon, and re-use nests in their life history. This includes birds such as ferruginous hawks, who have also been known to build nests on top of existing structures within their habitat.

Comment 123-13: Mitigation measures proposed in addition to the ones listed in Section 2.5.2.11 must be based on documented scientific evidence that is current and appropriate to the area being analyze. The FFNG DEIS should include citation to these studies within the document to support the need for additional restrictions. More detail is needed to support the validity of these proposed additional mitigations.

Response: The reason additional potential mitigation measures in Section 4.7.5 are proposed is detailed in Chapter 4, particularly Section 4.7.6. The BLM feels there is adequate support to include these measures in the DFPA process and Record of Decision when it is made.

Comment 123-14: Limiting the number of wells locations in areas of high wildlife density is effectively a mandate to directionally drill from a fewer number of available locations. For reasons adequately described in the DFNGF DEIS in Section 2.6.2, the use of alternative drilling technologies should not be presumed to be feasible on anything but a well-specific basis.

Response: BLM agrees with this assertion.

Comment 123-14a: An operator's inability to extract minerals from its leases is a denial of the rights associated with lease acquisition and could be construed as a taking. BLM Instruction Memorandum 92-67 clarifies 43 CFR 3101.1-2, which provides for a 200 meter general standard within which surface-use restrictions must fall. For any surface use restriction that exceeds the 200-meter/60 day rule, the BLM bears the burden of establishing that the restriction is justified.

Response: Your comment is noted.

Comment 123-16. Mitigation measures proposed in addition to the ones listed in Section 2.5.2.11 must be based on documented scientific evidence that is current and appropriate to the Project Area. The DFNGF DEIS should include citations to these studies within the document to support the need for additional restrictions. More detail is needed to support the validity of these proposed additional mitigations.

Response: Please refer to our response (Comment 123-13) to your earlier comment regarding mitigation.

COMMENT LETTER 124: ENVIRONMENTAL PROTECTION AGENCY

Comment 124-1: Pg. 4-29 Provide a Cost/Benefit analysis for mitigation measures.

Response: A summary mitigation table including costs and benefits was incorporated into the final document.

Comment 124-2: Pg. 5-6 Update cumulative far field impacts with results from the Jonah Infield DEIS.

Response: The timing for the release of the Jonah Infill EIS will not allow for its incorporation into the Desolation Flats EIS. The Desolation Flats analysis represents the most current information available for southwestern Wyoming.

Comment 124-3: EPA encourages the BLM to work with the State of WY in the development of a plan to reduce potential impacts to regional haze.

Response: The State of Wyoming, Department of Environmental Quality, Division of Air Quality has prepared a 2003 Review Report on Wyoming's Long Term Strategy for Visibility

Protection in Class I Areas. The Board and Air Quality Division invited the public, industry, and Federal Land Managers to provide comment on visibility protection from reasonably attributable visibility impairment in Class I Areas. While outside the scope of this document, the BLM is committed to avoiding visibility impairment in all areas, including Class I areas.

Comment 124-4: Pg. 4-8 EPA would prefer to see a "most likely" scenario rather than a "worst case" scenario.EPA's preference is noted. However, it is not feasible at this time to remodel for a "most likely" scenario.

Response: EPA's preference is noted. In this instance, the use of the term "worst case" refers to the analysis of Alternative A, for which the greatest impacts would occur. Impacts that may result from the implementation of Proposed Action or the No Action alternative would be less.

Comment 124-5: Pg. 4-11 State the rate of water application necessary to achieve a 50% dust control efficiency.

Response: A water application rate was calculated and presented in the Errata section, page 27. A daily application of 0.02 gallons/yd^2 should provide a fugitive dust control efficiency of 50%..

Comment 124-6: Pg. 4-14 State the distance to maximum predicted impacts.

Response: The referenced table was revised to include the distance to maximum impact for each pollutant and averaging time.

Comment 124-7: Pg 4-18 Provide EPA citation for the exposure scenario.

Response: Entire HAPs analysis was updated utilizing current reference concentrations and cancer risks factors. The most likely exposure scenario was removed from the analysis.

Comment 124-8: Pg. 4-20 State averaging times for Range of State Acceptable Concentration Limits.

Response: Entire HAPs analysis was updated utilizing current reference concentrations and cancer risks factors. Appropriate averaging times are presented for the new significance criteria.

Comment 124-9: Recommend revising risk numbers in Table 4-10 to whole numbers.

Response: Refer to Errata for an updated Table 4-10.

Comment 124-10: Pg. 4-24 Dinosaur NM background concentrations.

Response: The statement was removed from the final document.

COMMENT LETTER 125: KNIFFY HAMILTON, USDA FOREST SERVICE

Response: See responses to Comment Letter 146, a duplicate of Comment Letter 125.

COMMENT LETTER 126: F. ERLINE HITTEL

Response: Thank you for your comment.

COMMENT LETTER 127: RENEE C. TAYLOR, TRUE OIL LLC

Comment 127-1: The potential impacts to recreation and visual resources from the proposed activity are considered in the document to be significant. Yet, in the document no quantitative information is provided relative to the level of documented recreational activity that takes place in the study area. We recognize the importance of the area to big game hunters but fail to see the significance criteria relative to a reduced sense of isolation or visual change. The mere fact that visitors to the Haystacks or Adobe Town might be able to look out of the WSA and see a gas field does not make the gas field a significant impact to the users of the WSA.

Response: The current use levels and known recreational uses within the DFPA, Adobe Town WSA and Monument Valley Management Area are detailed on page 3-75. The DEIS states there in part:

> "Lands with wilderness qualities, whether existing wilderness areas, recommended and managed as WSA's, or lands under study for wilderness consideration, typically attract recreatists in search of solitude and isolation."

In chapter 4, page 4-91 the DEIS states:

> "Project related disturbances that adversely impact the characteristic landscape could also contribute to a decline in the recreational experience for these users. The recreation experience for those continuing to use the area would be less satisfying than use under the pre-disturbance conditions described in Chapter 3."

Comment 127-1a: The level of recreational use in the area is variously described in the document as "low" and a few paragraphs later as "moderate". Which is it and what are the relative differences between the two.

Response: Thank you for pointing this discrepancy out. The final EIS has been corrected to show moderate recreational use in both cases. Signs are not part of the DFPA's proposed action, or mitigations and are not planned for use in this project.

Comment 127-2: We are concerned at the potential cost of implementing the wildlife monitoring plan (Appendix H). While a relatively low level of development will require a "reasonable" level of monitoring, the intensity of monitoring relative to development at 4 well per section seems excessive. No information is provided regarding how these costs might be allocated amongst the various agencies and operators with interest in the area.

Response: Page H-2 of the Wildlife Monitoring Plan, in 2.1 "Annual Reports and Meetings" second paragraph states in part:

> "Decisions regarding annual Operator-specific financing and personnel requirements will be made at these meetings. A protocol regarding how to accommodate previously unidentified development sites will also be determined during the annual meeting. Final decisions will be made by the BLM based on the input from the Review Team and all affected parties."

Comment 127-2a: If all the provisions of Appendix H are implemented BLM will be overwhelmed with data. We suggest the BLM adopt, as part of its plan, the identification of key indicators by which system changes can be monitored. For each key indicator, the Review Team should identify triggers at which time, if exceeded, additional investigations would occur.

Response: Based on the extent of oil and gas development proposals coming into the Rawlins Field Office it is possible the amount of wildlife monitoring needed will increase, and the corresponding data generated will increase. The use of "key triggers" as you propose can be evaluated by the Review Team discussed in the Wildlife Appendix, and utilized if the Team decides to do so. Thank you for your suggestion.

Comment 127-2b: The information gathered through out the life of the project will provide much needed data regarding the affects of oil and gas development and production on wildlife. We urge the BLM to maintain consistency with existing data collection protocols and surveys guidelines so that at the end of the day the data are comparable.

Response: BLM agrees with this comment and will try to achieve this in the DFPA.

Comment 127-3: As written it appears that annual surveys will be required to determine if potential habitat has become occupied habitat and if it is additional constraints will be placed on that years development activities.

Response: As detailed on page H-10, at 2.2.3.4, Mountain Plover surveys will be conducted each field season to identify occupied habitat within the DFPA.

Comment 127-4: This stipulation looks like a mapping requirement leading to a two mile NSO. If this level of information is collected and areas within the two mile radius are found not to contain suitable nesting habitat will they be dropped from the spring/summer protection standard or is this another stipulation that will not be amended?

Response: The DF EIS process does not propose to impose any additional stipulations to leases within the DFPA. Mitigations proposed include greater sage grouse activities and/or constraints that will reduce or eliminate DFPA impacts upon sage grouse habitat and populations. Mitigations proposed include prohibition of surface disturbance within ¼ mile of a lek, no surface disturbance within two miles of an active or known greater sage-grouse lek between March 1 and June 30th, and no surface disturbance within identified patches of greater sage grouse severe winter relief habitat.

Comment 127-5: The herd is over objective. The range/vegetative resource has many management pressures from many directions including, but certainly not limited to, grazing by big game species, livestock and wild horses. Oil and gas activities further constrain the vegetative resource, slowly replacing it over time. The BLM is mandated with multiple use management of the public lands. We urge the BLM to reduce the number of horses to the population objective and allow the other legitimate uses of the resource be permitted.

Response: While wild horse management is outside the scope of the DFPA for consideration, the BLM acknowledges wild horse herd levels have been above herd objective levels and has taken action recently to deal with this problem.

COMMENT LETTER 128: ROSE MARIE ARIDAS

Comment 128-1a: My group looked and looked and couldn't find mountain plovers, hence they need to be protected and allowed to produce.

Response: Chapter 3 of the DFPA DEIS, page 3-67 and 3-68 described mountain plover presence and habitat within the DFPA. Figure 3-16 provides a map of large mountain plover habitat and areas of recorded sightings of the bird. Numerous mitigations are provided for in the document, and can be found in Chapter 2, especially at page 2-38 and 2-39, in Chapter 4 especially at 4-79 and 4-80, and in the Wildlife Appendix, pages H-37 and H-38. In Chapter 4, page 4-76, the DEIS states in part:

> "Given the implementation of mitigation measures in Sections 2.5.2.11.2 and 4.8.1.4, no adverse effects to mountain plovers are expected"

Comment 128-1b: Prairie dog colonies are essential to black-footed ferrets; why are we breeding them in captivity as a G&F program if we do development which will destroy the habitat of their prey?

Response: The DFPA DEIS states for the proposed action in Chapter 4, especially at 4-82 in part:

> "The anticipated disturbance of prairie dog colonies is expected to be low, and no significant impacts to white-tailed prairie dogs are expected."

Also in Chapter 4, on page 4-74 the DEIS states:

> "No ground disturbing activities would occur within a colony if a ferret is found. Through these measures, the Proposed Action is not expected to adversely affect the black-footed ferret."

The BLM does not anticipate the destruction of prairie dog habitats under this proposal.

Comment 128-1c: When we were near a drilling operation, we saw that the earthen dam used to hold back the waste water was leaching into the creek.

Response: There are no year round creeks (DEIS, page 3-34) in the DFPA. There are ephemeral drainages within the DFPA that flow some water during the spring melt and following storm events.

Comment 128-1d: I ask that "no surface occupancy" be part of the procedure for extracting oil and gas. If it need be done at all, let it be as minimally intrusive as possible. Do not disrupt the natural environment and habitat of native species.

Response: No surface occupancy is a possibility where impacts on wildlife and their habitats are serious enough to require this restriction. It is the experience of the BLM that this type of constraint is seldom needed to maintain, or attain minimally intrusive impacts within an oil and gas development area, such as the DFPA.

Comment 128-1e: Mandate directional drilling so drilling works around, not through, sensitive areas.

Response: Mandating directional drilling is an option that was considered but eliminated from detailed study. Please refer to the Section titled "Alternatives Considered but Eliminated From Detailed Study" for details on why that decision was made. Additional insight to directional drilling can be found on the internet at: http://www.wy.blm.gov/nepa/rsfodocs/vermbasin/VBPA-well-architecture-letter.pdf. The BLM anticipates directional drilling in one form or another will occur with the DFPA, but doesn't know specifically where at this time.

Comment 128-1f: We visited the Adobe Town Wilderness Study area; the idea that this phenomenally beautiful and rugged area would be impacted sickens.

Response: The Adobe Town WSA is outside of the DFPA. The DFPA DEIS states on page 4-95:

> "In addition, site disturbance and facilities would be visible from other portions of the MVMA and adjacent Adobe Town WSA, diminishing the quality of the visual experience for potential future users of these areas."

Comment 128-1g: Please be forthcoming about the plans for where the wells and the roads will be so that we who care can continue to have input.

Response: Following the issuance of the Record of Decision (ROD) for the DFPA EIS process, as site specific Operator proposals for development come forward they will be analyzed under the National Environmental Policy Act in EAs tiered to the DFPA ROD, and locations disclosed to the public for their information. Due to the uncertainties of geology, economics, surface conditions and other variables and unknowns the specific location of future developments cannot be predicted with sufficient accuracy to satisfy the NEPA provisions at this time.

COMMENT LETTER 129: JASON AND LINDA LILLEGRAVEN

Response: Thank you for your comment.

COMMENT LETTER 130: KENNY BECKER

Response: Thank you for your comment.

COMMENT LETTER 131: BECKY MILLER

Response: Thank you for your comment.

COMMENT LETTER 132: DEENA MCMULLEN, INDEPENDENT PETROLEUM ASSOCIATION OF MOUNTAIN STATES

Comment 132-1: The BLM must follow the President's Executive Order 13212 (2001) in completion of the Desolation Flats EIS. In the Executive Order, the President directs federal agencies to evaluate current programs, policies and rules and to reduce barriers to America's energy self-sufficiency. The EIS should reflect federal law and policy and the nation's need for secure sources of domestic energy.

Response: BLM agrees with your assertion, and believes the DFPA EIS moves towards those goals.

Comment 132-1a: The EIS should acknowledge that industry can develop the resources in an environmentally friendly manner while providing the nation with an abundant source of clean affordable energy.

Response: The DFPA EIS discloses the environmental effects of the proposed action and alternatives, actions and mitigations to be used to reduce or eliminate adverse environmental impacts and the consequences associated.

Comment 132-1b: Furthermore, the BLM has a Congressionally mandated multiple-use mission, which must be honored and not compromised by the single-use land management objectives promoted by certain interest groups.

Response: The BLM will conform with the mandates and direction found in the Federal Land Policy and Management Act.

Comment 132-2: During preparation of the Desolation Flats EIS, drilling activities should be allowed to proceed in accordance with regulations of the Council on Environmental Quality, particularly where the well(s) will not cause any adverse impact to the environment or will not limit the choice of reasonable alternatives.

Response: Interim drilling proposals may be allowed during the DFPA EIS preparation process as detailed in the "Interim Drilling Policy" for DFPA.

Comment 132-3: A decision to remove further lands from the constantly diminishing multiple-use land base would have a detrimental impact on local economic opportunities and welfare. Consequently, IPAMS would strongly object to a no-lease or no-surface occupancy stipulation decision for areas allocated to semi-primitive recreation.

Response: The DFPA EIS does not propose to change the land use status of lands within the DFPA. No changes to lease stipulations are proposed or envisioned in the DFPA.

Comment 132-4: BLM must not make assumptions that industry can directionally drill in any situation. Increased costs couple with increased mechanical challenges may prevent directional project from ever being drilled and thus related revenues not realized by the state of Wyoming and the country.

Response: BLM has not made that assumption. As detailed in Chapter 2, pages 2-14 to page 2-17 directional drilling is a tool available to the Operators when desired or needed. Surface and sub-surface issues will affect the development of actions tiered to the DFPA EIS, and the BLM will evaluate those proposals as they come forward.

Comment 132-5: When developing management practices and wildlife stipulations, the BLM should use sound science to determine wildlife patterns and whether restrictions are necessary. Too often, areas are closed or severely restricted based on faulty evidence. If no sound science exists that demonstrates the presence of a species in an area, the BLM should examine the area before making decision that will govern land management for the next 10 – 20 years.

Response: Under the Great Divide Resource Management Plan, additional wildlife restrictions may be added to a lease when new issues arise. Likewise, stipulations may be removed when found to be without sound basis or need. The DFPA EIS process does not propose any stipulation modifications or changes.

Comment 132-6: BLM should not impose regulations that exceed acceptable standards for the State of Wyoming.

Response: There are no regulations proposed by the BLM for this project, at this time.

Comment 132-7: IPAMS encourages the BLM to communicate early and often with cooperating agencies to prevent unforeseen delays at the eleventh hour. Cooperating with federal, state, and local agencies in the early stages of preparation of the document will help the BLM produce a document that is thorough in its analysis.

Response: The BLM concurs with your recommendation.

Comment 132-8: IPAMS urges the BLM to move expeditiously to complete this EIS, avoiding all unnecessary delays, so that the nation, state, and county can continue to reap the benefits of multiple use provided in this area.

Response: Thank you for your comment.

COMMENT LETTER 133: TODD ENNENGA, DEVON ENERGY PRODUCTION COMPANY, L.P.

Comment 133-1: Current BLM wildlife stipulations are in effect over several months of the year, creating a very limited window for Devon Energy to drill, complete, and/or recomplete wells. These stipulations reduce our ability to efficiently produce the resource, causing unnecessary capital tie-ups and inefficient use of reserve potential.

Response: As detailed in 43 C.F.R. 3101.1-2, a lessee shall have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to: Stipulations attached to the lease; restrictions deriving from specific, non-discretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize adverse impacts to other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed. To the extent consistent with lease rights granted, such reasonable measures may include, but are not limited to, modification of siting or design facilities, timing of operations, and specification of interim and final reclamation measures. Exceptions may be requested, and may be approved. Generally in the Rawlins Field Office timing constraints arise from the need to protect threatened, endangered, or sensitive species during crucial periods in their life cycle, including winter stress periods and mating/nesting season for birds. Constraints such as timing stipulations are sometimes required to sustain healthy wildlife populations.

Comment 133-1a: Devon feels it is necessary to discuss other types of mitigation, which cold be utilized at the time of oil and gas drilling. Proper implementation of these mitigations procedures allows for oil and gas activities to be compatible with other resource uses.

Response: While Chapter 2, at part 2.5.2.11 discusses mitigations that can be used to reduce the impacts of oil and gas development in the DFPA, it is not an exclusive list. If innovative and better techniques, technology, or science develops that allows for other mitigations, the BLM will certainly consider them when they are proposed.

Comment 133-2: The technology associated with directional drilling should not be considered a standard practice or stipulation for production in the preparation of the RMP.

Response: An alternative that would have required direction drilling was considered but eliminated from detailed study. Directional drilling may be approved when proposed based on geologic, biologic, or other factors that may cause such a proposal to come forward.

Comment 133-3: The Wyoming Oil and Gas Commissions current requirements for spacing of well pads should continue to be utilized by the BLM as an effective and consistent approach to minimizing surface disturbance.

Response: Approved well spacing will be consistent with the Great Divide (Rawlins) RMP, and tiered to the Desolation Flats project area (DFPA) record of decision (ROD).

Comment 133-4: Valid existing lease rights cannot be changed by a new plan. Voluntary compliance to the new plan may be sought from lessees if activities are initiated. Nevertheless, BLM needs to specify in the planning documents if and how valid existing lease rights could be impacted by the new leasing decisions. Specifically, potential conditions of approval for operators and other changes should be identified.

Response: The DF EIS does not propose to modify or alter lease rights within the DFPA.

Comment 133-5: The establishment of new Wilderness Study Area should be curtailed during the preparation of the Environmental Impact Statement. This ensures that the decision-making process will remain consistent. Additionally, if the BLM allows new WSA's to be established or the expansion of existing WSA's to occur, current lease rights could be violated triggering costly litigation and delays in the timeline.

Response: Chapter 2, part 2.6 "Alternatives Considered But Eliminated From Detailed Study" details an expanded wilderness alternative that was evaluated. Creation of wilderness study areas in the DFPA is outside the scope of the DFPA EIS process.

Comment 133-6: The requirement to prepare a Statement of Adverse Energy Impacts in the event opportunities to develop oil & gas are curtailed as a result of RMP revisions.

Response: Curtailment of oil and gas development at the RMP analysis level is outside the scope of the DFPA EIS process.

Comment 133-7: Currently the BLM is required to conduct certain monitoring activities. Devon feels that there is opportunity to integrate a broader approach to monitoring so that the BLM can determine when activities are approaching the management threshold set forth in the plan. This will allow the BLM to avoid making knee jerk reactions to halt all activity pending completion of a new EIS.

Response: Oil and Gas well disturbance levels were up dated for the FEIS in January of 2004. The update showed that the DFPA proposed action and Alternative A will not exceed the reasonably foreseeable development acreage analyzed for the Great Divide Resource Management Plan.

Comment 133-7a: We recommend the BLM look into alternatives to expand and implement integrated monitoring of resources. Additional funding for expanded monitoring should be addressed perhaps by using MMS royalties or other funding sources.

Response: As the extent of oil and gas development grows in the Rawlins Field Office, we have observed that traditional monitoring processes may need to be adaptively managed to allow more effective and less time consuming and costly monitoring. The use of MMS royalties for funding monitoring surveys is outside the scope of the DFPA EIS process.

COMMENT LETTER 145: JODI L. BUSH, U.S. FISH AND WILDLIFE SERVICE

Comment 145-2: Although the DEIS addresses measures to minimize impacts of project development on listed species, we believe the Bureau should also seize the opportunity to incorporate measures for species conservation and recovery into the planning document for this project.

Response: Within the scope of the Desolation Flats project area (DFPA) EIS process, the BLM believes it is doing as much as it can to attain this goal. Real challenges remain in the restoration of TE&S species both at the DFPA level and at larger scales.

Comment 145-3: Appendix I of the DEIS is the Biological Assessment for this project. However, the U.S. Fish and Wildlife Service (Service) has not received a request from the Bureau to initiate consultation, either formal or informal, under section 7 of the Act. Since there will be depletions to the Colorado River system, formal consultation for species affected will be necessary. We encourage the Bureau to initiate consultation on all listed and proposed species potentially affected by the project immediately so that delays in project implementation can be avoided.

Response: Formal consultation with the U.S. Fish and Wildlife Service was initiated in January of 2004 by the BLM. Fish & Wildlife Service concurrence, dated Mar 26, 2004 was received by the BLM Rawlins Field Office April 1, 2004.

Comment 145-4: The Bureau requires a 200 meter buffer from all active mountain plover nests for all project-associated development. However, since release of the DEIS for the Continental Divide/Greater Wamsutter II project, the Service, through consultation with Dr. Fritz Knopf, has determined this buffer be increased to 0.25 mile (app. 400 meters).

Response: In the DFPA DEIS, on page 4-76 it is stated:

> "Given the implementation of mitigation measures in Sections 2.5.2.11.2 and 4.8.1.4, no adverse effects to mountain plovers are expected."

BLM notes that in addition to the many mitigations proposed, much of the potential impacts to mountain plover will be avoided in the DFPA by siting facilities, roads, and well pads outside of known occupied mountain plover habitat to the extent feasible.

Comment 145-6: Please be advised that the greater sage-grouse habitat management guidelines referred to in this section (Braun et al. 1977) are outdated, and have been replaced by Connelly, et al, 2000.

Response: BLM acknowledges Connelly has replaced Braun. In addition, we understand new guidelines for managing greater sage-grouse are forth coming from the BLM Wyoming State Office. BLM will comply with whatever guidance is in effect when site specific proposals come forward for projects under Desolation Flats EIS and Record of Decision.

Comment145-6a: Therefore, the standard 2-mile range buffer around lek sites (referred to in this and all subsequent wildlife sections) may be insufficient to protect nesting hens.

Response: The BLM recognizes that greater sage-grouse nest both inside and outside of 2 miles from leks. At this time the BLM manages habitat using NSO's within ¼ mile of a lek, timing restrictions during strutting, nesting, and crucial winter time periods.

Comment145-7: However the boundaries of prairie dog colonies frequently shift, and therefore mapping completed 3 to 4 years prior to project implementation may no longer be accurate. We request that the mapping completed in 2000 be used as a guideline only for project planning.

Response: The BLM concurs with this assertion. All proposals for development receive a site visit where issues such as prairie dog town boundaries and facility siting are resolved.

Comment 145-8: The DEIS identifies the yellow-billed cuckoo as a sensitive species, but does not acknowledge that the western populations of this species is a candidate under the Act. While the candidate status does not confer any protection to the cuckoo under the Act, it does identify the cuckoo as a species for which listing is warranted, but precluded by higher priority actions at this time. We believe the Bureau should acknowledge the status of this species, and use your authority under Section 7(a) (1) Act to further the conservation and recovery of the cuckoo.

Response: The DFPA DEIS, on page 4-84, in analyzing the effects of the proposed action, states:

> "In Wyoming, the yellow-billed cuckoo prefers cottonwood stands for foraging and willow thickets for nesting (WYNDD 2001). Yellow-billed cuckoos have not been observed on or near the project area (WGFD 2000a) and they are not expected to occur due to a lack of suitable habitat. No adverse impacts to this species are expected from implementation of the proposed action."

Within the scope of the DFPA, the BLM does not have any options to further the recovery of the cuckoo in our opinion.

Comment 145-9: No supporting information is provided regarding the conclusion that the midget-faded rattlesnake is unlikely to occur on the project area. The Bureau should provide the supporting information for this conclusion. If the midget-faded rattlesnake may occur on the project area, protective measures for this species should be implemented.

Response: The DFPA, on page 3-71 under the title "Reptiles" states that the midget-faded rattlesnake may potentially be found within the DFPA, but the likelihood is very low. In Chapter 4, page 4-85 for the proposed action the DEIS further states in part:

> "The documented distribution of the midget-faded rattlesnake in Wyoming is west of the DFPA. However, the eastern extent of its range is not well known and the snake could potentially occur in suitable habitat on the project area. Potential impacts to midget-faded rattlesnakes habitat would likely be low because it is difficult to construct well sites and roads in rock outcropping areas, therefore those areas would likely be avoided. Implementation of the Proposed Action is not expected to significantly impact midget-faded rattlesnakes if present."

Although the midget-faded rattlesnake is not known to occur in the DFPA, it may occur. Disturbance activities are expected to avoid habitats used by the snake, if it should be present. BLM believes there is very little to no risk to this species from this project, and protective measures are not needed.

Comment 145-11: However, the DEIS does not analyze indirect effects of project development on the greater sage-grouse, or the impacts previously observed on other energy development projects, such as habitat fragmentation, population declines, lek abandonment, failure of hens to initiate nests, and loss of productivity (Braun, 1998; Connelly et al, 2000, Lyon, 2000). These impacts have been demonstrated to occur, even when mitigative measures, such as those described in the DEIS, are implemented. The Bureau should include these potential impacts in the analysis, and if still applicable, provide supporting information for the current no "significant" impact conclusion.

Response: The DEIS analyzes "indirect" effects as direct effects. The effects of the proposed action are detailed in Chapter 4, part 4.7.3.1.4 "Upland Game Birds". At 4.7.2 "Impact Significance Criteria" the DEIS indicates that disruption of greater sage-grouse , or raptor breeding or nesting activities to the extent that reproductive success is threatened or damaged would be a significant effect. Other criteria are detailed also that apply. The DEIS analyzes the impacts of DFPA energy development, but the impacts of other energy developments outside of the DFPA is outside the scope of the document. Habitat fragmentation, population declines, lek abandonment, failure to initiate nests, and loss of productivity are not effects expected from the DFPA, they are results that could occur if mitigations and avoidance goals are not implemented as necessary. In Chapter 4, page 4-67first paragraph the DEIS states:

> "Through seasonal closures, reclamation, avoidance, and mitigation measures, significant impacts to the greater sage-grouse population would not be expected to occur as a result of implementation of the proposed action"

Effects for Alternate A are discussed page 4-70, part 4.7.3.2.3 "Upland Game Birds" under "Greater Sage-Grouse".

Comment 145-12: The second paragraph of this section discusses measures to minimize potential impacts to nesting raptors by protecting both active and inactive nests. A no surface occupancy for permanent structures is identified to protect inactive nests that may serve as an alternate nesting location. However, no such stipulation is identified for active nests.

Response: Chapter 4, page 4-72, part 4.7.5 "Additional Mitigation Measures", sixth bullet down states:

> "No permanent above-ground structures would be constructed within 300m or less, depending upon species and/or line of sight, of any (emphasis added) raptor nest, on a site specific basis."

Comment 145-12a: If activities within this radius (0.5-1mile) of an active nest might cause abandonment, or reduce productivity, than the 300M (<0.25 mile) no surface occupancy around inactive nests will not be sufficient to protect these nests should they be used in the future.

Response: Seasonal disturbance mitigations, such as the mitigation listed in Chapter 2, page 2-38, seventh bullet down under "Wildlife" restrict construction and other disturbance activities in the proximity of an active raptor nest. No permanent surface structures are allowed within 300m of any raptor nest. If a raptor nest should become active within the nesting season, construction activities would be prohibited at the site during the restriction season. In the case of operational facilities, such as well pads, compressors et cetera, production operations would continue during the nesting season, just like they did when the bird occupied the nest.

Comment 145-12b: On the same page the DEIS states that all new project related roads would be closed to public use near active raptor nests to "offset" the potential impacts of increased traffic on nest success and productivity. Given the levels of project-related traffic identified in the DEIS, Table 2-3, page 2-31) restricting only public use of new roads may be insufficient to protect these birds. We request the Bureau consider avoiding road construction near active raptor nests thereby avoiding the potential conflict altogether.

Response: We were unable to find the text you refer to on page 4-67. However on page 4-68 the DEIS states in the second paragraph:

> "The creation of new roads would increase public access to areas within the project area. As use of the project area by both workers and recreationists increases, the potential for encounters between raptors and humans would increase and could result in increased disturbance to nests and foraging areas. Closure of road located near active raptor nests to public vehicle use would offset this potential impact."

On page 4-72, 4.7.5 "Additional Mitigation Measures" the 3rd bullet down states:

> "Roads located in big game crucial winter range may be closed, on a site specific basis, to public use from November 15-April 30 to minimize disturbance."

The BLM's intent with these statements was to describe some management alternatives to full open vehicle access within the DFPA that could be considered when sensitive resources may experience adverse impacts from vehicles and disturbance. Restricting use of roads is an option when adverse impacts are observed, or expected to occur. The range of alternatives is from fully open to everyone to completely shut to everyone, and everything in-between. BLM is not aware of areas that would require restrictions on use at this time, but wants to be sure those tools are available if and when needed. The exact terms of road use restrictions would vary based on the specifics of the situation.

Comment 145-13: Page 4-68, Section 4.7.3.1.6 Combination of Wildlife Concerns: The DEIS discusses the numbers of potential wildlife concerns by map locations (sections). However, the purpose of this discussion is not identified, nor is it clear how these results will be used by the Bureau for project planning and minimization of potential impacts to wildlife. The Bureau should clarify how this information will be used.

Response: Section 4.7.5 "Additional Mitigation Measures" in bullets 1, 2, 4, and 5 list additional mitigation measures that may be used based on the impacts and concerns detailed on page 4-68 "Combination of Wildlife Concerns". That is the purpose of the discussion on page 4-68.

Comment 145-14: However, the mitigation measures for both the active raptor nests and mountain plover are limited to seasonal restriction. No mitigation measures are identified solely for white-tailed prairie dogs.

Response: In Chapter 2, 2.5.2.11 "Project Wide Mitigation Measures, the "Wildlife" section (page 2-39) list 5 mitigations related to prairie dogs and black-footed ferrets. Included in these mitigations are statements that well pads and disturbance would be located outside of prairie dog colonies where feasible. Should black-footed ferrets be found in a prairie dog complex located within the project area, impact to the species or its habitats would be completely avoided, and all previously authorized project-related activities on-going in the prairie dog complex would be suspended immediately. In addition, if disturbance of prairie dog colonies located within complexes that contain potential black-footed ferret habitat can not be avoided, black footed ferret surveys would be conducted according to FWS guidelines.

Comment 145-15: The Service has determined that any depletion in the Colorado River system may adversely affect these species.

Response: Please refer to our response to comment 145-3.

Comment 145-16: Therefore, restricting traffic speed and volume only until July 10 may not provide adequate protection for birds foraging along roads. We strongly encourage the Bureau to implement this measure throughout the entire period mountain plovers are present on their breeding range (April 10 until late September.)

Response: The DEIS, in Chapter 4, part 4.8.1.2 for the proposed action states in part:

> "Given the implementation of mitigation measures in Sections 2.5.2.11.2 and 4.8.1.4, no adverse effects to mountain plovers are expected."

The BLM believes mitigation measures as written are adequate.

Comment 145-17: Page 5-16, Section 5.3.7, Wildlife: The DEIS states that additional mitigation measures may be implemented if monitoring indicate there will be "significant" cumulative effects as a result of project implementation. However, the DEIS contains no provisions for adaptive management.

Response: Implementing additional mitigation measures if monitoring indicates there will be significant cumulative effects is adaptive monitoring.

Comment 145-17a: However, the wildlife monitoring plan (Appendix H) does not assess cumulative effect for threatened and endangered species.

Response: BLM agrees with this assertion. Cumulative effects for threatened and endangered species are detailed in Chapter 5 "Cumulative Impacts Analysis", part 5.3.7 "Wildlife", section 5.3.8 "Special Status Plants, Wildlife, and Fish Species".

Comment 145-17b: If the monitoring plan is to be used for assessing cumulative impacts, it should be modified accordingly.

Response: The monitoring plan, as detailed in Appendix H, is designed to allow for the BLM, working in concert with other agencies, such as the US Fish and Wildlife Service, Wyoming Game and Fish Department, Project Operators and others to monitor, assess and adaptively manage mitigations. Monitoring is not limited as to which effects it will look at. Cumulative impacts are among those that Appendix H will be monitor.

Comment 145-18: Page 5-19, Section 5.3.7.3, Greater Sage-grouse

Response: Effects, including indirect and direct effects, on greater sage-grouse are detailed in Chapter 4 on page 4-65 for the proposed action, and page 4-70 for alternative A. Please refer to 4.8.2.2 and the wildlife monitoring/protection plan, Appendix H. We believe monitoring and adaptive mitigation will avoid and detect unanticipated indirect impacts.

Comment 145-20: However, the plan is not designed to collect the type of data necessary, with the appropriate statistical rigor, to make any meaningful correlations.

Response: The BLM acknowledges your comment, but also wishes to point out that the Wildlife Appendix (H) at 2.0 "Implementation Protocol" also states in part on page H-1:

> "This section provides a preliminary (emphasis added) wildlife inventory, monitoring, and protection protocol for the DFPA."

The monitoring plan, as detailed in Appendix H, is designed to allow for the BLM, working in concert with other agencies, such as the US Fish and Wildlife Service, Wyoming Game and Fish Department, Project Operators and others to design survey protocols, monitor, assess and adaptively manage mitigations as needed.

Comment 145-21: Raptor inventories are only to be conducted every 5 years. Therefore, it is unclear how raptor nest buffer stipulations will be applied if surveys are not conducted annually to determine if nesting raptors are present.

Response: Please refer to our response to comment 145-20.

Comment 145-22: The techniques that will be used to make the suitable habitat determination should be included in this monitoring plan to assist the Bureau and project proponents with project planning.

Response: Please refer to our response to comment 145-20.

Comment 145-23: Page H-16, Wildlife Monitoring Plan, Section 2.3, Protection Measures: While these measures should minimize potential impacts, there has been no evaluation of their effectiveness on previous projects.

Response: The Rawlins Field Office interdisciplinary specialists have worked on numerous oil and gas development project in the past. These actions and their effects are common, and well known. Mitigations are used because they are effective and known to work. While the BLM agrees that programmatic or scientific studies from the past would be useful in evaluating upcoming projects, performing such studies is outside the scope of the DFPA. The wildlife monitoring plan is intended to provide much of these evaluations over time, but they are not available now.

Comment 145-24: Page H-17, Wildlife Monitoring Plan, Section 2.3.1, Raptor Protection Measures: The monitoring plan states that well locations, roads, ancillary facilities and other surface structures requiring a repeated human presence will (not) (sic) be constructed within 825 feet of active raptor nests (1,200 feet of ferruginous hawk nests). But the plan does not provide any information that demonstrates these distances will be effective in reducing the potential effects of project-related disturbance on nesting raptors. Also, on page 4-67, the DEIS states that no surface structures will be built within 300m (approx 990ft.) of inactive raptor nests. The Bureau needs to resolve this discrepancy, and provide the supporting information that the selected buffer distances are adequate to protect nesting raptors.

Response: Distances were determined through on-going field monitoring and from reviewing available research findings. A wide variety of research was taken into account in making this determination, and BLM is comfortable with these distances when coupled with monitoring. The text has been changed at 4.7.3.1.5 to reflect 1200 feet for ferruginous hawks, and 825 feet for other.

Comment 145-25: The Bureau prohibits construction of well sites, access roads, and pipelines within 500 feet of surface water, for the protection of riparian resources, including the yellow-billed cuckoo. However, the monitoring plan does not identify any provisions to minimize indirect effects to this bird, if it occurs. This should be corrected.

Response: The DFPA DEIS, on page 4-84, in analyzing the effects of the proposed action, states:

> "In Wyoming, the yellow-billed cuckoo prefers cottonwood stands for foraging and willow thickets for nesting (WYNDD 2001). Yellow-billed cuckoos have not been observed on or near the project area (WGFD 2000a) and they are not expected to occur due to a lack of suitable habitat. No adverse impacts to this species are expected from implementation of the proposed action."

Within the scope of the DFPA, the BLM does not have any options to further the recovery of the cuckoo in our opinion.

COMMENT LETTER 146: CAROLE "KNIFFY" HAMILTON, USDA FOREST SERVICE, BRIDGER-TETON NATIONAL FOREST

Comment 146-1: Adequacy of data analyzed. Data does not reflect the current conditions on the ground. Requests that more analyses be completed using current data, updated RFD inventory, and the incorporation of impacts from the Powder River Basin CBM project.

Response: Complex air quality analyses will never reflect actual conditions on the ground as the studies require a significant amount of time to complete, while at the same time new emission sources are permitted on a daily basis and project proponents are continuously proposing new developments. Updated information has been included with the FEIS that an extended period of time did elapse between the completion of the air quality analysis and the publication of the DEIS.

Comment 146-2: Significance of Visibility Impacts. The Forest Service has reviewed cumulative visibility impacts from Desolation Flats combined with other recently proposed projects in Wyoming and has determined that the impacts are significant. The Forest Service requests that additional modeling be completed to include Washakie and Teton Wilderness Areas and to evaluate if updated cumulative sources would indicate additional impacts.

Response: We ask the Forest Service to consider that cumulative impacts predicted in the Desolation Flats analysis cannot be combined with the results of other recent analyses to estimate total impacts. The transport of emissions from different sources, and the resulting impacts upon visibility, is a complex process with non-linear results. Thus predicted impacts for one analysis cannot be added with impacts from other analyses.

As reiterated in the Forest Service comment, the Desolation Flats cumulative analysis predicted a total of 25 days of visibility impairment. Of these 25 days, 23 days of visibility impairment are predicted to occur without any contribution of emissions from Desolation Flats. The Desolation Flats project is predicted to contribute only to two days of visibility impairment greater than 0.5 dv, however these two days of impairment are not solely caused by Desolation Flats, but rather by the combination of emissions from the project in association with the emissions from hundreds of operating sources and other reasonable foreseeable future sources.

As for the inclusion of Washakie and Teton Wilderness areas in the analysis, please see the following explanation.

In the application of dispersion models to predict air quality impacts, the limitations of the applied models and associated methodologies must be acknowledged. The EPA has evaluated concerns with the adequacy of the CALPUFF dispersion model to address certain instances of long range transport (Federal Register Vol. 69, No. 29, Thursday February 12, 2004, page 6977). The EPA confirms that CALPUFF has adequate accuracy for use in the 50 to 200 km range. This conclusion is in agreement with the Interagency Workgroup on Air Quality Modeling (IWAQM), which conducted several studies to evaluate CALPUFF's performance. IWAQM has recommended the use of CALPUFF for transport distances on the order of 200 km or less. In addition, IWAQM concluded that there are serious concerns with the use of CALPUFF at distances over 300 km (Interagency Workgroup on Air Quality Modeling Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts, December 1998, page 18). Accordingly, the EPA recommends caution with the use of CALPUFF at such long transport distances.

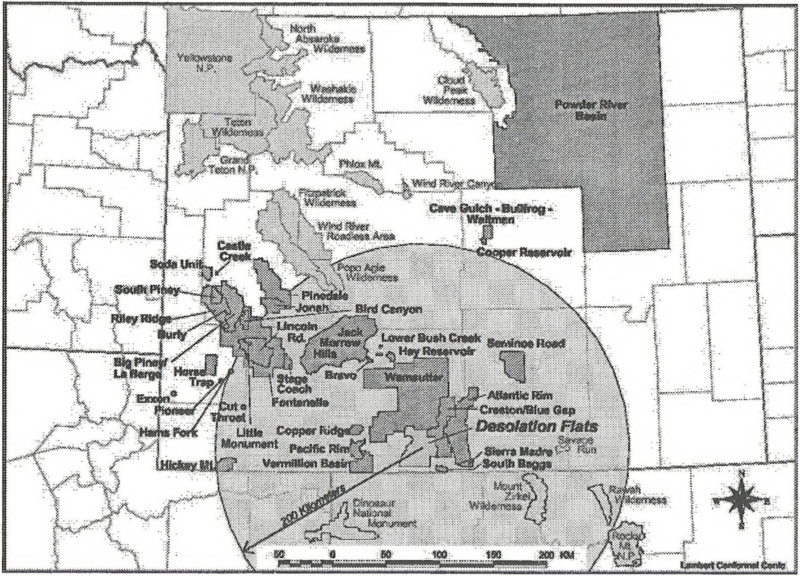
In light of the above information, the following can be concluded concerning the adequacy of the Desolation Flats cumulative analysis and comments received from the public.

1) The Forest Service and other stakeholders have requested the inclusion of Washakie and Teton Wilderness areas in the analysis. Washakie Wilderness ranges from 275 to 375 km from the Desolation Flats Project Area, and Teton Wilderness ranges from 325 to 375 km from the Project. Given these very long transport distances and the limitations of CALPUFF, the inclusion of Washakie Wilderness, Teton Wilderness, and other more distant areas of concern (Yellowstone N.P., Grand Teton N.P., etc.) would not be appropriate. Analysis of these more distant areas would likely lead to meaningless results.

2) The Forest Service and other stakeholders have submitted comments concerning the completeness and timeliness of the RFD inventory. Of primary concern was the exclusion of the Powder River Basin CBM project from the RFD inventory. The Powder River Basin project ranges from 250 to 475 km from the Desolation Flats project area. Again, with such great transport distances, the inclusion of the PRB project would not be technically appropriate as the cumulative impacts resulting from the Desolation Flats Project in conjunction with PRB sources cannot be accurately predicted. Other NEPA projects excluded from the RFD inventory are discussed below. Potential impacts associated with several of these projects have been, or will shortly be, disclosed to the

public. Other projects should not be included in the Desolation Flats analysis for technical reasons discussed below.

NEPA Project	Status
South Piney CBM	This project is located approximately 225 km from Desolation Flats, beyond the accuracy limitations of the CALPUFF model. The BLM expects that the EIS for this project will be available in the fall of 2004.
Jonah Field Infill	Located approximately 200 km from Desolation Flats, near the accuracy limitations of the CALPUFF model. Project and cumulative impacts associated with the Jonah Infill project will be disclosed in a separate EIS to be released in the fall of 2004.
Seminoe Road CBM	Emissions associated with this project have not been quantified. Therefore, the inclusion of this project in the Desolation Flats analysis would be purely speculative. The EIS for this project is expected to be released in the fall/winter of 2004.
Atlantic Rim	Emissions associated with this project have not been quantified. Therefore, the inclusion of this project in the Desolation Flats analysis would be purely speculative. The EIS for this project is expected to be released in the fall/winter of 2004.
Wind River Natural Gas Development	This project is located approximately 225 km from Desolation Flats, beyond the accuracy limitations of the CALPUFF model.
Big Porcupine CBM	This project is approximately 325 km from Desolation Flats, beyond the accuracy limitations of the CALPUFF model
Copper Ridge Shallow Gas Project	Impacts associated with this project have been disclosed to the public. A DR/FONSI was issued in December 2003.
Little Monument Unit Natural Gas Infill Drilling Project.	This project is located approximately 180 km from Desolation Flats, near the practical limits of CALPUFF. A DR/FONSI was published for Little Monument in January 2004.
Pacific Rim Shallow Gas Well Project	The BLM expects that the EIS for this project will be available in the summer/fall of 2004.


North Absaroka Wilderness
Yellowstone N.P.
Washakie Wilderness
Cloud Peak Wilderness
Powder River Basin
Teton Wilderness
Grand Teton N.P.
Phlox Mt.
Wind River Canyon
Fitzpatrick Wilderness
Cave Gulch - Bullfrog - Waltman
Wind River Roadless Area
Copper Reservoir
Castle Creek
Soda Unit
Popo Agie Wilderness
South Piney
Pinedale
Jonah
Bird Canyon
Riley Ridge
Burly
Lincoln Rd.
Jack Morrow Hills
Lower Bush Creek
Hay Reservoir
Seminoe Road
Big Piney/ La Barge
Horse Trap
Bravo
Wamsutter
Stage Coach
Exxon
Pioneer
Fontenelle
Atlantic Rim
Creston/Blue Gap
Cut a Throat
Hams Fork
Little Monument
Copper Ridge
Desolation Flats
Savery Run
Pacific Rim
Sierra Madre
South Baggs
Hickey Mt.
Vermillion Basin
Mount Zirkel Wilderness
Rawah Wilderness
200 Kilometers
Dinosaur National Monument
Rocky Mt. N.P.
N
W
E
S
50
0
50
100
150
200 KM
Lambert Conformal Conic

Comment 146-3: The FS believes that updated cumulative air quality analysis as requested in items 1 and 2 above, will highlight the need for some type of large scale mitigation to occur before this project can move forward in the development stage.

Response: A revised mitigation analysis was incorporated into the document. Further mitigations are not required to comply with Wyoming and National air quality standards.

Comment 146-3a: The FS requests the BLM to conduct an extensive analysis of potential mitigations (to determine costs, practicality and effectiveness) for the Final EIS which may reduce overall emissions affecting sensitive areas, including Class I area while allowing future gas developments to occur. The need for this analysis goes beyond this project, and will become necessary as new project are proposed, analyzed and developed.

Response: Analysis beyond this project is beyond the scope of this project. Rawlins Field Office is currently conducting a land use planning exercise which may provide the "extensive analysis" you request.

Comment 146-4: This sentence states:

> "BLM feels the 1145 well number is not completely accurate since it is highly likely many of the abandoned wells have been reclaimed since 1985."

This implies the BLM does not track reclamation of well sites. Is this true???

Response: BLM does not track reclamation, per se, it tracks well status. All wells listed as "plugged & abandoned" have been fully reclaimed and the Operator's performance bond released. Wells with the status "abandoned" (ABD) have been plugged, and may or may not be reclaimed. ABD wells may have been reclaimed, but they have not yet been accepted and released by the BLM. The text in the FEIS has been changed to reflect this.

Comment 146-4a: Isn't this a responsibility of the land management agency??

Response: It is.

Comment 146-4b: Why in the last sentence of this paragraph are you making an assumption of reclamation rather than knowing the status of reclamation of abandoned wells??

Response: This language has been corrected in the FEIS.

Comment 146-10: Page 3-18 Additional Class I Areas

Response: Refer to our response to Comment 146-2.

Comment 146-11: Page 3-20. The standard visual range for the Bridger wilderness should be represented as 175 KM, not 175 miles.

Response: Updated visibility data are presented in the final document.

Comment 146-12: Pg 3-21 Table 3-9. Why were these dates selected for your visibility data baseline?

Response: The Forest Service is possibly misinterpreting the data in Table 3-9. The referenced dates were not used as the baseline visibility data. In discussing existing visibility conditions, the most current seasonal and annual summary data available from the IMPROVE website are provided. This was not meant to imply that these data were used as representative background conditions for the analysis. As discussed in the Air Quality Technical Support Document, a 1995 baseline date was utilized for the analysis, and the corresponding background visibility data consistent with the 1995 date were applied for the analysis.

Comment 146-13: Pg. 3-22, Table 3-10. This table should include a sample number.

Response: Only summary ANC data were provided by the Forest Service which did not include the number of samples comprising the background values.

Comment 146-14: Pg 3-22 fig. 3-6 Revise map with additional Class I areas.

Response: The subject figure was amended as requested.

Comment 146-15: Pg. 3-23 Is it proper to show visibility in terms of dv?

Response: Deciview or dv is one of three common metrics by which visibility can be assessed, the other two being standard visual range (SVR) and extinction (b_{ext}).

Comment 146-16: Pg. 3-94 General comment – Data should have been updated.

Response: We acknowledge that a substantial period of time has elapsed between the completion of the analysis and the publication of the DEIS.

Comment 146-17: Pg. 4-9 Table 4-2 Make units consistent.

Response: The subject Table was amended to indicate both miles and kilometers.

Comment 146-18: Pg 4-12. Assumptions for flaring?

Response: Assumptions for flaring emissions are specified in Appendix A, pg. 13 of the emissions inventory report. As shown, Project Proponents estimated the average flaring rate at 2.5 MMscf/well over a three day period, resulting in NOx emissions of 176 pounds/well.

Comment 146-19: Pg 4-12 Well Emissions.

Response: We assume that the FS is referring to well venting as part of the production operations to clear accumulated fluids from the wellbore. Project Proponents did not anticipate the need for well venting during production operations. Therefore these emissions were not included in the inventory.

Vehicle emissions associated with production operations were not specifically addressed in the analysis as they were considered insignificant.

Comment146-20: Pg 4-21 Ozone

Response: Ozone is not directly emitted by sources, but rather is formed in the lower atmosphere through a complex process of chemical reactions. This makes the quantification of ozone impacts very difficult. Comments provided by the WDEQ-AQD indicated that the 8-hr

Ozone standard has not been implemented in Wyoming and therefore the Division is currently not requiring compliance demonstrations for these standards.

Comment 146-21: Pg. 4-24 Background at Dinosaur.

Response: The statement was deleted from the document.

Comment 146-22: Pg. 4-24 Bridger Background Visibility Data.

Response: As discussed in the Air Quality Technical Support documents, a 1995 baseline data was used for the emission inventory. Although more recent background visibility data were available, only data through 1995 were used in order to avoid double counting monitored and modeled impacts.

Comment 146-23: Pg. 4-25 PM2.5 standard omitted.

Response: According to Cara Casten of WDEQ-AQD, the new PM 2.5 and O3 standards have not been implemented in Wyoming. Therefore the WDEQ is currently not requiring compliance demonstrations for these standards.

As per WDEQ-AQD recommendations, Chapter 3 of the document was revised to acknowledge the new standards, with a footnote indicating the current status. In Chapter 4, potential impacts were not compared to the new standards.

Comment 146-24: Pg. 4-29 Wind generated power.

Response: A more detailed discussion of mitigation measures was added to the final document.

Comment 146-25: Pg 4-29 Offsite NOx Mitigation.

Response: The installation of low NOx burners at the Naughton Power Plant is a prime example of off-site mitigation.

Comment 146-26: Pg. 5-6 Naughton NOx mitigation.

Response: Document was amended to indicate Ultra Petroleum as the proponent of the low NOx burners.

Comment146-27: Pg. 5-6 Cumulative analysis only includes sources through 2001.

Response: The cumulative impacts section was updated with a qualitative discussion.

Comment 146-28: Pg. 5-8 RFD Location

Response: We appreciate your affirmative comment.

Comment 146-29: Pg. 5-11 Reference to Section 4.2.8.

Response: The correct reference should be 4.2.3.1.5. The document was revised as appropriate.

Comment 146-30: Pg. 5-11 Background Visibility Data

Response: See Comment 146-22 Response. As discussed in the Air Quality Technical Support documents, a 1995 baseline data was used for the emission inventory. Although more recent background visibility data were available, only data through 1995 were used in order to avoid double counting monitored and modeled impacts.

Comment 146-31: Pg. 5-11 Cumulative analysis not up to date.

Response: The cumulative impacts section was updated with a qualitative discussion.

Comment 146-32: Pg. 5-12 DV interpretation.

Response: There is no intent to imply that deciview values are additive. The percentage column was removed from the table to avoid confusion.

Comment 146-33: Pg 5-12. Acid deposition.

Response: The cumulative impacts section was updated with a qualitative discussion.

Comment 146-34: Pg 5-13 Acid Deposition.

Response: The cumulative impacts section was updated with a qualitative discussion.

Comment 146-35: Section 5.3.2.5 Adequacy of data.

Response: The cumulative impacts section was updated with a qualitative discussion.

Comment 146-36: Section 5.3.2.5 Adequacy of analysis.

Response: The cumulative impacts section was updated with a qualitative discussion.

Comment 146-37: General Comment regarding visibility analysis.

Response: We refer the Forest Service to the Introduction to Visibility report available on the Improve website at http://vista.cira.colostate.edu/improve/Education/IntroToVisinstr.htm

COMMENT LETTER 148: BARK KOEHLER, DIRECTOR, THE WILDERNESS SOCIETY'S WILDERNESS SUPPORT CENTER.

Response: Thank you for your comment.

COMMENT LETTER 149: TOVA WOYCICCHOWICZ

Response: Thank you for your comment.

COMMENT LETTER 150: ERIK MOLVAR, BIODIVERSITY CONSERVATION ALLIANCE

Subheading I: The Reasonably Foreseeable Development Scenario Has Been Exceeded.

Refer to BLM Policy 150-1 for the following responses.

Comment 150-1a: Since the Great Divide RMP was approved with a reasonably foreseeable development scenario of 1,440 wells over the life of the Plan, 1,628 wells have been exceeded by almost 200 wells, and now this project would propose to add another 300-500 wells.

Response: The Reasonably Foreseeable Development (RFD) scenario, does not represent a planning decision, rather it is an assumption to analyze the effects that discretionary management decisions have on oil and gas activity. The Great Divide RMP and the oil and gas RFD scenario recognizes development on two levels; 1) number of wells permitted and 2) amount of surface disturbance associated with development. 1,440 wells you mention was just one of the assumptions used, along with other data to determine the effects of oil and gas development. The number of wells permitted is one RFD reference point, the number of surface acres disturbed per well represents another. Surpassing one of these points does not necessarily mean additional development cannot occur. One consideration is the extent of disturbance per well has reduced steadily over the planning period resulting in less disturbance impacts than anticipated per well. Should the number of wells and the level of surface disturbance exceed those analyzed in the Great Divide RMP, BLM would re-examine the RMP assumptions and compare them to actual on-the-ground impacts to determine if further oil and gas exploration and development is an appropriate action.

Comment 150-1b: When combined with the 1,200 CBM wells forecasted for the Seminoe Road project, not to mention the nearly 4,000 CBM wells forecasted for the Atlantic Rim project, it is indisputable that the RFD has been exceeded many times over.

Response: Only the exploratory wells from the Seminoe Road and Atlantic Rim Natural Gas projects are included in calculations of RFD for Desolation Flats. Because no Record of Decision has been issued for either, development at Seminoe Road and Atlantic Rim is not reasonably foreseeable at this time as it is with exploratory projects such as Brown Cow Pod for instance. The BLM agrees that the RFD scenario disturbance acreage level is getting close to being met, as demonstrated by the analysis in the DEIS. Continued oil and gas development and exploration has brought the RFO even closer to the line, and this condition is being assessed in the on-going Resource Management Plan revision under way at this time in Rawlins. The final EIS for DFPA includes an updated disturbance calculation from 2004 for consideration.

Comment 150-1c: Plugged and abandoned wells do in fact count toward the RFD totals as their impacts (weed infestation, surface disturbance) are felt years beyond abandonment.

Response: Plugged and abandoned wells do not count towards the disturbance figure because they do not enter that category until they have been site reviewed and accepted as reclaimed by the BLM. Notice of intent to abandon wells may be reclaimed but not yet accepted, but since no empirical data is available they are not counted in the DEIS as reclaimed.

Comment 150-1d: Moreover, the true number of wells should properly include some or all of the 2,774 so-called plugged and abandoned wells-because, despite BLM's claim that they've been reclaimed, the Wamsutter II analysis in 1998 noted many of the P&A wells since 1985 had not been reclaimed within 13 years.

Response: Oil and gas disturbance must be successfully reclaimed and approved by BLM before the Operator's performance bond is released back and the well re-classified to the "Plugged & Abandoned" category.

Comment 150-1e: However, this current project adds 5,000 disturbed acres in addition to the acreage affected by the Seminoe Road, Atlantic Rim, Mulligan Draw, Greater Wamsutter II, Continental Divide/Wamsutter II, Creston/Blue Gap, Uinta Basin Lateral Pipeline, Hay Reservoir Unit, South Baggs Area and Vermillion Basin Projects.

Response: As detailed in the DEIS for the Rawlins Field Office, Chapter 1, pages 1-11 through 1-14, the project is expected to add 1,422 acres of long term disturbance for the proposed action and 2,238 acres of disturbance for Alternative A. Further detail can be found in Chapter 1. Actual and projected long term disturbance acreages have been updated for the FEIS.

Comment 150-1f: Here, we ask two things of BLM in the FEIS: first, the total acreage affected or allowed by the project authorizations to be affected for these oil and gas fields in relation to the cumulative acreage allowed in the RMP and in relation to the year by year anticipated disturbances.

Response: That information has been included in the FEIS, and is discussed in detail in the DEIS in Chapter 1, pages 1-11 through 1-14. The FEIS includes oil and gas related disturbance updated from January 2004.

Comment 150-1g: Second, as a RFD scenario necessarily sets the cap on a cumulative impacts analysis, which included all form of development, we ask BLM for the entire Great Divide Resource area, to ensure that the acreage totals requested above include all state, private and federal development from the 1990 RMP (1987 DEIS) to the present day. The sum total of these projects studied, authorized or led to 5,000 wells, many of which are within the Great Divide resource area.

Response: In assessing compliance with the RFD analysis scenario, all oil and gas development in included. This includes state, private, and federal wells as listed on the Wyoming State Oil and Gas Commission records. There is a detailed analysis in the DEIS based on conditions as of 12/31/01. The FEIS reflects conditions updated as of January 2004.

Comment 150-1h: Therefore we suspect that the cumulative impacts analysis of the RMP, tied to its far-exceeded RFD, does not allow for this current proposal.

Response: The BLM agrees that the RFD cumulative effects analysis allowable disturbance limitation acreage is being approached. Detailed analysis presented in the DEIS supports the conclusion the proposed action will not exceed the RFD used to support decisions made in the Great Divide RMP. An updated analysis was included in the FEIS.

Comment 150-1i: We note that any argument that BLM can do the RMP revision and the current EIS simultaneously, violates a fundamental principal of NEPA that an agency, here BLM, not undertake any action that may jeopardize the full range of alternatives in the revised

RMP, which may include very different conditions of approval and mitigation measures for wildlife and other resources than are proposed for this project.

Response: The Desolation Flats EIS is consistent with the direction found in 43 CFR 1610.5-3, "Conformity and Implementation." It reads in part:

> "All future resource management authorizations and actions, as well as budget or other action proposals to higher levels in the Bureau of Land Management and Department, and subsequent more detailed or specific planning shall conform to the approved plan".

Again, we disagree with your assessment that the RFD has been exceeded. The proposed activities and level of development described in the Desolation Flats DEIS conforms to the approved Great Divide Resource Area Record of Decision and Approved Resource Management Plan and the Green River Resource Management Plan. BLM currently has direction from our Washington Office under Instruction Memorandum No. 2001-191. It states, when a RMP is being amended or revised, BLM will continue to process site-specific permits, sundry notices, and related authorizations on existing leases. It states that when processing an APD during this time, BLM must make a determination on plan conformance. Site-specific NEPA analysis may include a cumulative impact analysis, especially where impacts projected for RFD scenarios are or will be exceeded. Although as stated previously, approval of the Desolation Flats project will not exceed the RFD used for analysis in the Great Divide RMP, but even if it did, BLM policy allows for the approval of APDs during land use planning, even if the RFD has been reached.

Comment 150-1j: To allow more wells and massive projects for more oil patches undermines not only the FLMPA planning process, but also the direct and cumulative effects analysis under NEPA for oil and gas in the planning area.

Response: Please refer to our response to comments 1h and 1i above.

Comment 150-1k: FLPMA calls for an immediate halt to further project approvals in the Great Divide resource area because BLM has exceeded the level of development authorized under the RMP.

Response: Please refer to our response to comments 1a and 1h.

Comment 150-1l: In fact, BLM has admitted that as many as 5,000 wells are foreseeable in the resource area based on approved and ongoing projects, yet its RMP considers the prospect of only 1,440 wells. At present, the number of wells on the ground, and certainly those under consideration, and the present-day RFD scenario far exceeds the limits set by the 1990 RMP. By exceeding these baselines to such a degree, BLM has clearly ignored the regulatory directive established by 43 C.F.R. 1610.5-3 (a), as these project and well approvals are outside anticipated levels of the RFD and therefore an action that does not conform to the RMP.

Response: Please refer to our response to comments 1a, 1i, and 1h.

Comment 150-1m: BLM further violated its own planning regulations by failing to amend the RMP prior to this and other projects. BLM "shall" initiate and complete a plan amendment when "a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions and decisions of the approved plan.

Response: Please refer to our response to comments 1a, 1i, and 1h.

Comment 150-1n: The point here is rather simple: The RMP allowed for a certain number of wells that it considered in its RFD cumulative impacts analysis. When that number has been surpassed, and will continue to be surpassed with additional project and APD approvals, the RMP must be amended to account for and thoroughly analyze this predicted future development. The current revision process of the Great Divide RMP does not help "cure" any NEPA of FLPMA deficiencies for projects already approved in the interim.

Response: Please refer to our response to comments 1a and 1h.

Refer to BLM Policy 150-2 for the following responses.

Comment 150-2a: Continuing to lease lands before the revised RMP is released violates NEPA.

Response: The Desolation Flats EIS does not propose to lease lands with the DFPA.

Comment 150-2b: The point here is rather simple-information may be gained during the RMP revision process in terms of wildlife protective measures, new technologies that should be employed to reduce impacts and other impact-reducing measures. To proceed with a major EIS and natural gas field approval now, before those new measures are developed, studied and adopted, may authorize a project with different (and most likely, more lenient) mitigation measures than those developed in the new RMP.

Response: The Desolation Flats EIS is consistent with the direction found in 43 CFR 1610.5-3, "Conformity and implementation." It reads in part:

> "All future resource management authorizations and actions, as well as budget or other action proposals to higher levels in the Bureau of Land Management and Department, and subsequent more detailed or specific planning shall conform to the approved plan".

The Desolation Flats EIS conforms to the approved Great Divide Resource Area Record of Decision and Approved Resource Management Plan and the Green River Resource Management Plan. The Desolation Flats DEIS, is a programmatic document and is not authorizing any site-specific activity, however, even if it were, BLM policy found in Instruction Memorandum No. 2001-062, recognizes that BLM can use its authority and discretion to condition its approval of proposed actions to not constrain alternatives under consideration in an RMP revision or amendment consistent with the lease rights granted. Any site-specific activity approved in the DFPA after the approval of the RMP would be subject to the management prescriptions described in the new document.

Subheading II: Illegal Deferral of Analysis to Subsequent Stages of Development

Refer to BLM Policy 150-3 for the following responses.

Comment 150-3a: The BLM has deferred any hand in the management of oil and gas development in the DFPA to market forces, abdicating its responsibility to actively manage oil and gas development. According to the DFEIS,

> "The precise number of additional wells, locations of the wells, and timing of drilling associated with the proposed natural gas development project would be directed by the success of development drilling and production technology and

> economic considerations such as the cost of development of leases within the project area with marginal profitability."

DFEIS at 2-1. The BLM later states,

> "Accurately predicting the total number of wells and the timing of drilling operations is difficult due to the limited amount of natural gas exploration and the geologic complexities in the DFPA."

DFEIS at 2-3. We would humbly submit that the BLM could accurately predict the number and location of all future wells in the planning area with 100% accuracy if these variables were set is stone in the DFEIS as they should be according to law. But according to federal law, the number of additional wells, well locations, timing of drilling and construction should not be dictated by market forces, but by environmental and multiple use considerations.

Response: At this time the location of all future well sites and other disturbance cannot be determined with 100% accuracy by any process the proponents or BLM are aware of. "Setting in stone" well locations in the EIS would require predicting well locations with information in hand, and ignoring the fact that each well provides additional information that is utilized to help determine future actions, including the number of wells and well site locations. Currently, generalized areas of interest are being explored through the interim drilling process to further develop our knowledge of the geology and potential of the DFPA. Adaptive management of oil and gas resource development is very much a reality in that new information produces more effective drilling programs with correspondingly reduced effects upon the environment. The number of wells, well locations, timing of drilling, and construction is controlled in part by the location of gas and oil resources as they are found and developed, within the context of BLM's responsibility to ensure surface disturbance is managed in accordance with both the law and sound resource management.

Comment 150-3b: In essence, then, this EIS will not look at the actual impacts of the proposed project, but instead masks a massive quarter million acre oil and gas exploratory project in the name and guise of a thorough hard look at site-specific impacts in a project level document."

Response: There is no attempt to mask a thorough hard look at site-specific impacts. The DFPA is not a project level document, it is a programmatic document. Site-specific impacts will be thoroughly reviewed under the NEPA regulations by tiering site specific environmental analysis to the Desolation Flats Record of Decision (ROD). The regulations for implementing the procedural provisions of the National Environmental Policy Act, issued by the Council on Environmental Quality are found in 40 CFR Parts 1500-1508. 40 CFR 1502.2 States:

> "Agencies are encouraged to tier their environmental impacts statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (1508.28). Whenever a broad environmental impact statement has been prepared (such as a program or policy statement) and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy (such as a site specific action) the subsequent statement or environmental assessment need only summarize the issues discussed in the broader statement by reference and shall concentrate on the issues specific to the subsequent action. The subsequent document shall state where the earlier document is available. Tiering may also be appropriate for different stages of actions. (40 CFR 1508.28)"

The tiered EIS approach used with DFPA is consistent with the CEQ regulations found in 40 CFR. Section 1508.28 states in part:

> "Tiering is appropriate when the sequence of statements or analyses is:
> (a) From a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.

The BLM NEPA Handbook (H1790-1) states in part, in Chapter III, C.:

> "1. Purpose and Use of Tiering (40CFR 1508.28) Tiering is used to prepare new, more specific or more narrow environmental documents (e.g., activity plan EA's) without duplicating relevant parts of previously prepared, more general or more narrow environmental documents (e.g. RMP/EIS's)."

The tiered approach used with DFPA is consistent with BLM agency direction including the NEPA Handbook.

Comment 150-3c: Again, these and other statements within the EIS undermine its entire purpose – BLM is wholesale admitting it has absolutely no idea where wells will be located, or for that matter, whether there'll be a certain number due to profitability. It naturally follows then, that road, pipeline, compressor and other infrastructure locations are also big questions marks looming over this proposal.

Response: The BLM has a general idea of facility locations, but not specific sites in many cases. While the operator and BLM know in general where to place the various actions proposed such as well sites and roads, the exact location will depend on the location of the natural gas resource, guidance from the DFPA EIS, and opportunities and conditions in the field that allow for minimization of environmental impacts, mitigations, and costs. Locating a ground-disturbing activity just a few feet one way or another can often greatly reduced, or increase, the impacts of the action. For any detailed site-specific proposal not fully covered by DFPA EIS, an environmental assessment must be performed and a decision made. This is consistent with the BLM NEPA handbook, the Code of Federal Regulations (43 CFR 3162.5-1, Environmental Obligations) and NEPA. Proposals for individual actions will receive site specific NEPA analysis under the tiering concept utilized by the BLM. See response 3b for more details on legal authorities and BLM policy.

Comment 150-3d : The problem? In what conceivable world is BLM then going to be able to actually address site-specific impacts to soils, vegetation, wildlife, surface waters and cultural resource, with this scant information?

Response: The real world. See responses 3a and 3b above.

Comment 150-3d: Once the project is approved, BLM will then take on APD's and tier back to this EIS for the majority of impacts, and voila, one of BLM's favorite shell games is uncovered: push off important environmental analyses that could be done in the present if BLM bothered to go out and collect information and survey existing resource, to later stages of development – and at the time, "tier back" to the nonexistent analysis in these project level documents.

Response: Each APD when submitted is reviewed under a separate site-specific EA in conformance with NEPA. Field reviews and surveys by BLM resource specialists, and consultation with interdisciplinary team members in the EA NEPA process allows for the identification of specific impacts and issues that arise from the proposal. Consultation, when appropriate, occurs with other Agencies including Conservation Districts, US Fish and Wildlife Service, and Wyoming Game and Fish Department. The environmental impacts are assessed and a decision is made by the authorized official on whether the proposal is significant under

NEPA, and which alternative to select in the interest of quality land and resource management. These EA's are tiered to the relevant programmatic document as detailed above.

Comment 150-3e: Given that this EIS by BLM's own admissions cannot accomplish its core objectives, a better manner of proceeding in this situation where there is no information on likely producing reserves (and thus well pads, etc.) is to allow a few exploratory APDs to gather the necessary information for a proper EIS that could look at, plan for, analyze and mitigate impacts across a 225,000 acre swath of public land.

Response: That is the purpose of allowing interim drilling in the DFPA.

Subheading III. Failure to Obtain Baseline Data

Refer to BLM Policy 150-4 for the following responses.

Comment 150-4a: No baseline data for prairie dogs.

Response: Chapter 3 of the DFPA draft EIS (DEIS) details surveys conducted for prairie dog towns and black footed ferret in the Section titled "Threatened, Endangered or Proposed for Listing Species of Plants, Wildlife, and Fish. Consultation has been initiated with USFWS and more information on prairie dogs and black-footed ferrets can be found in the Biological Assessment (Appendix I, Sec. 3.1) prepared for this project.

Comment 150-4b: No baseline data for populations (and sometimes even occurrence data) for other BLM Sensitive Species.

Response: BLM Sensitive Species Data for BLM Sensitive Species is provided in Chapter 3 in the Section titled "Sensitive Plant, Wildlife, and Fish Species".

Comment 150-4c: No baseline data for locations of historic trails known to lie within or near the Desolation Flats Planning Area.

Response: Details of historic trail presence are disclosed in Chapter 3 in the Section titled "Historic Sites".

Comment 150-4d: Site specific surveys for Threatened and Endangered Species and BLM Sensitive Species would be deferred until just prior to surface disturbing activities; no surveys were conducted for these species prior to the publication of the Draft EIS for Desolation Flats.

Response: Site specific surveys will occur, in conjunction with NEPA analysis, when specific sites have been proposed for disturbance, as with the filing of an APD. However, a Biological Assessment has been prepared for the project area and formal and informal consultation has been initiated and completed with the USFWS service. Recommendations made by USFWS for the protection of T&E species found within the DFPA will be included as mitigation during the approval and implementation of site-specific activities, as applicable, to further reduce impacts to T&E species.

Comment 150-4d2: BLM also admits that "specific air quality monitoring has not been conducted with the project area."

Response: There are no air quality monitoring sites within the DFPA to do "specific monitoring." Air quality monitoring sites are detailed in both the DEIS and the FEIS and are adequate for the purposes of this document.

Comment 150-4e: The court further held that,

> "The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process."

Clearly, BLM has failed this basic duty in this DEIS and must provide this information in a second draft EIS so that environmental consequences can be satisfactorily assessed."

Response: Please refer to Chapter 3 in the DEIS.

Subheading IV. The BLM Fails to Analyze a True "No Action" Alternative

Refer to BLM Policy 150-5 for the following responses.

Comment 150-5a: Pursuant to NEPA, the "no action" alternative (40 CFR 1502.14 (d)) is supposed to give a baseline comparison for which to compare the impacts of the different action alternatives. The only way to properly do that is a no action alternative that does not allow, at least theoretically, any action. BLM failed to do this – see, e.g., DEIS at 2-3, 2-5 and instead provided for APDs to be approved on federal lands on a case by case basis."

Response: The "no action" alternative in the DEIS for the DFPA provides for continued development of actions that have already been approved in other NEPA documents. It also provides for consideration of any other oil and gas development proposals that might be made, not necessarily approval.

Comment 150-5b: First, the alternative allows action, which is rather obviously at odds with a "no action" alternative. While BLM is accurate in saying that its post-leasing ability to preclude all drilling is limited (and therefore must allow some drilling, just not each APD), it confuses this legal requirement with the purpose of a no action alternative, which is to assume no action for purposes of establishing a proper baseline comparison.

Response: The alternative doesn't "allow" action, it acknowledges that action proposals may come forward for consideration, even without approval of the DFPA. In addition, oil and gas development activities already assessed and approved are reasonably foreseeable actions that will occur if the "no action" alternative is selected in the Record of Decision. Those decisions have been made and are not re-opened for a new decision. Authorizations granted previously are detailed in the section "Alternative B – No Action.

Comment 150-5c: Second, the "no action" alternative, as it is set-up, allows for no meaningful impacts analysis. How in the world is BLM supposed to analyze the impacts of APDs that may be granted, and more particularly, "on a case-by-case basis, in as of yet unknown places?

Response: When the "unknown place" becomes a known place, the BLM will be able to analyze it, if it should happen.

Comment 150-5d: The description of the no action alternative- that it would allow ad hoc APD permitting in unknown places affecting unknown resources – is a far cry from a meaningful look at what the impacts would be of this project assuming that truly no action for oil and gas took place of federal lands.

Response: The alternative doesn't "allow" action, it acknowledges that action proposals may come forward for consideration, even without approval of the DFPA

Subheading V. Range of Alternatives and Mitigation Measures

Refer to BLM Policy 150-6 for the following responses.

Comment 150-6a: No differing alternatives were offered that looked at first finding out the gas reservoirs potential of the focus area (to then build upon in an EIS if full field development was proposed), at different spacing patterns, multiple completions per well pad in different numbers, multiple directional and horizontal wells from pad to reduce impacts and a resource protection alternative, to name a few.

Response: Please refer to the Section titled "Alternatives Considered but Eliminated From Detailed Study" for details on why that decision was made. Additional insight to directional drilling can be found on the internet at: http://www.wy.blm.gov/nepa/rsfodocs/vermbasin/VBPA-well-architecture-letter.pdf

Comment 150-6b: BLM should note that this basic, fundamental requirement that is the touchstone of every EIS has not gone unnoticed on the federal judiciary in sending back EIS's that fail to meet this requirement.

Response: Noted.

Comment 150-6c: The present DEIS has only two action alternatives that are practically the same. This type of limited and narrow range of alternatives has met a similar fate in the courts."

Response: We disagree with your assessment that the two alternatives are practically the same. There were very specific reasons given in the DEIS for the development of Alternative A. Alternative A was developed to analyze a level of development that might occur should there be an increase demand in the natural gas market or an increase in the price of natural gas, which would make the area more profitable to develop (DEIS at 2-4). These alternatives represent an alternative means of satisfying the identified purpose and need and of resolving issues.

Comment 150-6d: The failure to look at the full range of reasonable alternatives is related to BLM's duty in any EIS to develop, study, analyze and adopt mitigation measures to protect other resources. Put simply, the failure of BLM to study and adopt these types of mitigation measures – especially when feasible and economic – means that the agency is proposing to allow this project to go forward with unnecessary impacts to public lands, in violation of FLPMA.

Response: Within Chapter 2 of the DEIS, in the section entitled "Project-Wide Mitigation Measures" is detail on over 9 and one half pages of mitigation measures for DFPA. The BLM believes this to be sufficient, coupled with the other mitigations detailed in Chapter 4 and elsewhere.

Comment 150-6e: Some examples of a lack in range of mitigation measures include the BLM's proposal to mitigate for impacts to sage grouse leks with a No Surface Occupancy (NSO) buffer of only ¼ mile, rather than the 2-3 mile buffer that is supported in the scientific literature.

Response: The sage grouse is a BLM sensitive species, listed as such on 04/09/2001. Because of this status no actions that might jeopardize the future existence or viability of this species may occur. Sage grouse populations have been declining for many years. The Great Divide Resource Management Plan (RMP) in Appendix I lists sage grouse in several areas of the Wildlife Mitigation Guidelines including 2b and 2c. 2c provides for the prohibition of surface activities or use within important habitat areas for the purpose of protecting sage grouse breeding grounds and or habitat where timing stipulations are not appropriate. The purpose of the Guidelines are (1) to reserve for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. The Guidelines in the RMP are not specific as to the distance an action must be moved to mitigate impacts of a proposal on sage grouse. Literature reviews show that requirements for no surface disturbance (NSD) from a lek generally run in the 0.25 to 2 mile range. The ¼ mile NSD mitigation is generally a minimum distance. Additionally, another mitigation listed on page 2-38 states that no surface disturbance would be allowed within identified patches of greater sage-grouse severe winter relief habitat.

Comment 150-6f: ...the BLM's maximum of a ¼ mile NSO buffer for the Cherokee Trail, without considering a much larger (3-5) mile buffer that would protect the trail's viewshed and setting...

Response: ¼ mile is guidance, not a set rule. The State Historic Preservation Office is consulted when proposals are less than 2 miles away from the trail. Cultural Resources mitigations describe avoidance as the preferred method for mitigating adverse effects to a historic property.

Comment 150-6g: ....and the BLM's maximum NSO buffer of only 1,250 feet for raptor nests, when studies indicate that a buffer of ¼ mile to 2 miles is warranted.

Response: No disturbance would be allowed during the critical nesting season (Feb1 – July 31, depending on species) within 1 mile of an active nest of listed or sensitive raptor species, and ¾ - ½ mile (depending on species or line of sight) of an active nest of other raptor species. The nature of the restrictions and the protection radius would vary according to the raptor species involved and would be determined by the BLM. This is the seventh wildlife mitigation listed in Chapter 2 of the DEIS, in the section entitled "Project-Wide Mitigation Measures".

Comment 150-6h: BLM also adopted many standard conditions of approval and mitigation measures without taking a hard look at whether these measures are effective – numerous oil and gas projects in the region have adopted mitigation measures over the past twenty years and BLM failed to inventory these sites to measure their effectiveness.

Response: BLM has adopted standard conditions of approval and mitigation measures for surface disturbance impacts from oil and gas operations over a considerable period of time. Those measures and procedures are considered part of the proposed action and are described in Chapter 2 of the DFDEIS. These conditions and mitigations have been developed by the BLM from observations of the effectiveness of the mitigation or condition, and adaptive modification of the mitigation to make it better when needed, or when better techniques are developed. The actions envisioned for the DFPA are common and their effects well known. Generally the BLM's standard mitigation measures and conditions of approval are adequate to avoid or repair adverse impacts to the environment. Where standard procedures are not expected to work or results are uncertain for some reason, the BLM adapts procedures and monitors results to ensure unacceptable effects on the environment are avoided. For example, wildlife mitigation and monitoring studies are being conducted in several oil and gas fields such as CD/WII and the Pinedale Anticline to further improve our knowledge regarding how oil and gas may impact wildlife species and better determine the effectiveness of our currently prescribed protection measures. Wildlife mitigation and monitoring is also a part of the Desolation Flats proposal, see DEIS Appendix H.

Comment 150-6i: This provision requires

> "the disclosure and analysis of the costs of uncertainty [and] the costs of proceeding without more and better information."
> "On their face these regulations require an ordered process by an agency when it is proceeding in the fact of uncertainty."

Response: The actions envisioned for the DFPA are common and their effects well known. Also, please refer to our response to comment 6h.

Comment 150-6j: Unless the costs are exorbitant or the means of obtaining the information are not known, the BLM must gather the information in studies or research.

Response: The actions envisioned for the DFPA are common and their effects well known.

Comment 150-6k: Thus, the present EIS is deficient by not taking a hard look at the effectiveness of the chosen mitigation measures and particularly so given the duty to look at readily accessible data from projects such that totaled 1,775 oil and gas wells drilled before 1987, or 16 years ago. DEIS at 1-12. That means there is a lot of readily available data out there the BLM has ignored in evaluating the effectiveness of the mitigation measures in this case. Simply listing and not analyzing the effectiveness of the measures also results violation of NEPA.

Response: Conditions of Approval and mitigations have been developed over the years by the BLM from observations of the effectiveness of the mitigation or condition, and adaptive modification of the mitigation to make it better when needed, or when better techniques are developed. Additional mitigation not considered as part of the proposed action (Ch. 2) are described in Chapter 4 of the DFDEIS. Per NEPA (40 CFR 1502.14(f)), BLM Policy as described in the BLM NEPA Handbook, H-1790-1, page V-8, and the courts, the DFDEIS describes how these measures are anticipated to avoid, minimize, or eliminate impacts to affected resources. Also, please refer to our response to comment 150-6h.

Subheading VI. The Desolation Flats DEIS Exemplifies the Wyoming BLM's Failure to Address the Cumulative Actions of Oil and Gas Development in the Greater Green River Basin.

Refer to BLM Policy 150-7 for the following responses.

Comment 150-7: The Desolation Flats DEIS Exemplifies the Wyoming BLM's Failure to Address the Cumulative Actions of Oil and Gas Development in the Greater Green River Basin.

Response: As detailed in Chapter 5 "Cumulative Impacts Analysis", potential cumulative impacts are assessed at the resource level in the DEIS. Cumulative impacts area (CIA) varies for each resource area assessed. Addressing the cumulative actions of oil and gas development in the entire Greater Green River Basin which encompasses lands in three states is outside the scope of this assessment.

Subheading VII: There is no Purpose and Need for this Project.

Refer to BLM Policy 150-8 for the following responses.

Comment 150-8a: There is No Purpose and Need for this Project.

Response: The purpose and need for this project is detailed in Chapter 1 "Purpose and Need".

Comment 150-8b: Secondly, the BLM's "No Action" alternative (which in fact continues drilling on valid existing leases, rather than implementing no action) would authorize the drilling of 23 additional wells in the Mulligan Draw area and 34 additional wells in the Dripping Rock Springs area, plus additional wells outside these project area on a case-by-case basis. Thus, gas development on existing lease will continue even if an "action" alternative is not selected.

Response: The "No Action" alternative will not authorize further development as asserted. It recognizes that this development has already been approved under earlier environmental analysis and consequently is a reasonably foreseeable development within the DFPA. In other words it is the continuation of existing management. Your assertion that

> "gas development on existing lease will continue even if an "Action" alternative is not selected, as if the Desolation Flats EIS had never existed"

is probably correct in most cases. Refer to response 150-5a.

Comment 150-8c: Thus, this EIS serves no purpose and is not needed for oil and gas development to continue in the area, the DEIS has no legitimate Purpose and Need and should be abandoned before additional taxpayer dollars are wasted on this boondoggle.

Response: See the response above regarding the purpose and need for the DFPA DEIS. Details of the DEIS and its place in the assessment of environmental impacts to the DFPA are found in Chapter 1, "Purpose and Need for Action", section 1.3 "Environmental Analysis."

Subheading VIII: Visual Resources Do Not Receive Adequate Protection Under the Proposed Action.

Refer to BLM Policy 150-9 for the following responses.

Comment 150-9a: And how does the specific pattern of development (i.e. particular siting of roads, wells, pipelines) relate to these sensitive visual resources?

Response: The specific pattern of development is unknown at this time, but will develop as individual site specific proposals come to BLM for approval and site specific NEPA analysis tiered to the DF ROD.

Comment 150-9b: Finally, the BLM should identify important viewsheds from the standpoint of public recreation and solitude, with special provisions that guarantee that the viewsheds in popular recreation areas like Powder Rim and Adobe Town/MVMA do not suffer from degradation as a result of the Desolation Flats project.

Response: Identification of important viewsheds occurs in the Great Divide and Green River Resource Management Plans. Identification of additional important viewsheds is out side the scope of the Desolation Flats project.

Comment 150-9c: These areas should be managed for No Surface Occupancy through Conditions of Approval (COAs) attached at the APD stage. The BLM should be prepared to compensate Operators for any "taking" which may accrue for the post-hoc attachment of the COAs, which should be mandated through the DFEIS

.

Response: Leasing stipulations are imposed at the time the lease is sold. Appendix I Part 5 of the Great Divide RMP details conditions where "no surface occupancy" will be applied. Addition of further constraints or expanded areas of no surface occupancy are outside the scope of this EIS. The BLM doesn't expect any "takings" relative to lease rights to occur under the DFPA.

Subheading IX: Wilderness Resources are Inadequately Protected Under All Alternatives

Refer to BLM Policy 150-10 for the following responses.

Comment 150-10a: The BLM chose not to consider protecting the proposed wilderness set for(th)(sic) in the Citizen's Wilderness Inventory of Adobe Town and the Western Heritage Alternative for the Great Divide RMP within the DEIS on the basis that it would be more appropriate to address within the BLM's land use plan review process. Further it was determined that it would not be appropriate to delay the EIS for this project while such a land use review is undertaken.

Response: In a letter addressed to Erik Molvar of the Biodiversity Conservation Alliance, dated February 5, 2002, the BLM responded to a proposal from then Biodiversity Associates entitled "A Citizen's Wilderness Inventory of Adobe Town". The BLM's response, in part was:

> "The on-going oil and gas development within the Citizen's Proposal is consistent with the Great Divide Record of Decision and Approved Resource Management Plan, November 1990, the Green River RMP, August 1997. Oil and gas development is also consistent with the Mulligan Draw Gas Field Project Record of Decision and the Continental Divide / Wamsutter II Natural Gas Project Record of Decision. The majority of federal lands within the Citizen's Proposal have existing oil and gas leases (see map 2). Therefore, your proposal to place a moratorium on future oil and gas development is not consistent with the Great Divide RMP, the Green River RMP, or current policy or regulation. Your proposal to designate the area within the Citizen's Proposal a WSA is also inappropriate at this time without the supporting analysis and documentation developed through the land use planning process."

The same condition and situation applies today.

Comment 150-10b: Therefore, protection of lands encompassed in the Citizen's Proposal must be considered as part of the DEIS for Desolation Flats.

Response: Protection of lands encompassed in the Citizen's Proposal in the DFPA is detailed in Chapter 2, part 2.6 "Alternatives Considered but Eliminated from Further Detailed Study" section 2.6.1 "Expanded Wilderness Alternative."

Comment 150-10c: We request that BLM grant all public lands within the Haystacks portion of the citizens wilderness inventory be granted WSA status and be withdrawn from all drilling, road, or pipeline construction as a Condition of Approval for APDs under the Desolation Flats project until such time as Congress can reach a final decision to either grant it wilderness status or release it from wilderness consideration.

Response: Granting wilderness status to any areas within the DFPA is outside the scope of the Desolation Flats EIS. Also, please refer to our response to 150-10b.

Comment 150-10d: In the interim, BLM should actively pursue a program of land swaps in order to free up the potential wilderness from private inholdings.

Response: Pursuing a program of land swaps is outside the scope of the Desolation Flats EIS process.

Comment 150-10e: Once an oil and gas road is reclaimed to the BLM's satisfaction following a project like Desolation Flats, how can it be considered a "road"?

Response: The purpose of reclamation is to remove the "road". There is a risk that once a road is reclaimed, before it is thoroughly re-vegetated it could be used as a two-track route, however the purpose of road reclamation following abandonment is to eliminate the road as route for vehicles and restore the land to its original condition.

Comment 150-10f: The roads and wells of the Desolation Flats projects should be kept out of this portion of the proposed wilderness as well.

Response: Please refer to our response to comment 10a.

Comment 150-10g: The BLM agreed that this area indeed possesses the characteristics of wilderness, and thus Conditions of Approval should be attached to all APDs under the Desolation Flats project protecting this area from surface disturbance.

Response: Please refer to our response to comment 10a and 10b.

Comment 150-10h: FLPMA requires that the BLM manage its resources, including wilderness-quality lands (both Congressionally-designated and otherwise); the Desolation Flats Draft EIS attempts to duck this requirement, which leaves the document legally deficient.

Response: Please refer to our response to comments 10a and 10b.

Comment 150-10i: In addition, the BLM should extend the same interim protections to other portions of the citizen's proposal in order to maintain a full range of alternatives I the Great Divide RMP revision.

Response: Please refer to our response to Comment 10a and 10b.

Comment 150-10j: --Furthermore, the DFEIS seems to imply that applications would be approved following the ROD issuance on the revised Great Divide RMP regardless of outcome. The wording should be altered to indicate that applications may be denied or altered to conform to the new Great Divide RMP.--The wording should be altered to indicate that applications may be denied indefinitely or altered to conform to the new Great Divide RMP.

Response: Approval of APDs following the ROD for the Great Divide RMP within the Rawlins Field Office administrative boundary will be consistent with the ROD for the new RMP. Please refer to our response to comment 2a.

Comment 150-10k: Why is there no alternative that would not entail significant impacts to wilderness and recreation analyzed in the DFEIS? This marks a failure by the BLM to analyze an adequate range of reasonable alternatives, because complete protection for wilderness resources is certainly a reasonable alternative.

Response: This is detailed in section Chapter 2, section 2.6.1 "Expanded Wilderness Alternative".

Comment 150-10l: In short, the BLM is considering NO ALTERNATIVE which would not adversely impact the wilderness qualities of the adjacent Adobe Town WSA, let along the citizen's proposed wilderness that lies within the DFPA, in its range of alternative. This failure constitutes an egregious violation of NEPA's requirement to analyze a range of reasonable alternatives.

Response: Please refer to our response to comment 10k.

Subheading X: The Powder Rim Proposed ACEC and Associated Winter Ranges Must Receive Full Protection from Surface Disturbances.

Refer to BLM Policy 150-11 for the following responses.

Comment 150-11a: These juniper woodlands and the juniper obligate songbirds that depend on them, will receive adequate protection if the BLM chooses to place big game crucial ranges and the Powder Rim proposed ACEC off-limits to disturbance for the purposes of this project.

Response: Wildlife mitigations for crucial big game winter range is detailed in Chapter 2, section 2.5.2.11.2 entitled "Resource Specific Requirements" page 2-38. Effects of the proposed action are discussed in Section 4.7.3.1.1 entitled "General Wildlife". For birds effects are discussed in the first paragraph. Alternative A is discussed in Section 4.7.3.2 and discloses that effects from this alternative are expected to be identical to the proposed action, but proportionately higher because of the greater number of well pads and post-reclamation disturbance. There is no Powder Rim ACEC, nor is one under consideration at this time.

Subheading XI: Assertion: The Monument Valley Management Area Should be Protected from Drilling.

Refer to BLM Policy 150-12 for the following responses.

Comment 150-12a: The Monument Valley Management Area (MVMA) was identified as a possible Area of Cricital Environmental Concern (ACEC) under the Green River RMP, with the stipulation that conferring ACEC status would be evaluated at a later time. The Desolation Flats project would allow full-field development at 640-acre spacing in the MVMA.

Response: The GRRMP delayed consideration of the MVMA or portion thereof for designation of ACEC until inventories could be completed in order to determine whether ACEC relevance and importance criteria for ACEC designation are met. Management objectives and actions state the area is open to consideration for mineral leasing, exploration and development provided mitigation can be applied to retain the resource values. All public lands within this portion of the MVMA are leased and each federal lease provides for approval of an acceptable plan of development. Acceptable plan criteria for the affected public lands were determined by the RS IDT members and included as Appendix A in the EIS.

Comment 150-12b: Hunters would be adversely impacted by the full-field development as proposed in the DEIS.

Response: The decision to implement the Mulligan Draw project remains full force and effect and allows up to 13 wells at 640 acre spacing within this portion of the MDPA which overlies a portion of the DFPA and MVMA. The Proposed Action as well as Alternative A could allow an additional 13 well locations in this portion of the MVMA.

Although some hunters could be displaced by activity within the portion of the MVMA that overlies the DFPA, hunting would not be precluded.

Comment 150-12c: Visual resources in the MVMA would be impacted by the proposed project.

Response: The EIS recognizes that visual impacts would occur on public lands within this area. However, any visual intrusion from approved activities located on public lands would be subject to the acceptable plan criteria outlined in Appendix A as well as be designed to blend into and retain the existing character of the landscape to the extent possible.

Comment 150-12d: The checkerboard status of surface ownership does not abrogate the BLM's responsibility to maintain the MVMA visual resources standards. The fact of private inholdings is therefore irrelevant to the protective measures required under the GRRMP.

Response: The BLM disagrees with the contention that private in holdings are irrelevant. The BLM is mandated to provide for ingress to privately held lands and minerals. Additionally, the decisions in the Green River Resource Management Plan apply only to public lands and minerals administered by the BLM.

Comment 150-12e: Impacts to visual resources are equally high under the "No Action" alternative as the Proposed Action.

Response: The alternatives considered in the analysis recognize management mandates for public lands located within checkerboard lands found in the RSFO portion of the DFPA.

Subheading XII: Wildlife

Refer to BLM Policy 150-13 for the following responses.

Comment 150-13a: The DFEIS provides,

> "If development occurs in areas of overlapping wildlife resource concerns, mitigation measures for each individual resource would be implemented."

DFEIS at 4-56. This distinction could not possibly be more arbitrary and capricious, because the converse would be that if an area is of wildlife resource concern for only one species, then mitigation measures will not be implemented.

Response: The converse of the statement quoted above is that when an area has wildlife concerns for only one species, then mitigation measures will be implemented only for the species of concern. The first full sentence of page 4-57 states:

> "All appropriate mitigation measures for the corresponding wildlife resources that are disturbed within a section would be implemented."

Comment 150-13b: Mitigation measures should be applied to every acre of sensitive wildlife habitats regardless of whether it also happens to be a crucial habitat for a second or third species.

Response: Please refer to our response to comment 13a.

Comment 150-13c: The BLM should clarify in the FEIS that wildlife mitigation measures will indeed be implemented on every acre of sensitive wildlife habitat, not just in areas where sensitive habitats for two different species overlap.

Response: Please refer to our response to comment 13a.

Comment 150-13d: Obviously, if those areas that are not overlapping and yet are of high wildlife concern for one species are not granted mitigation measures, then significant impacts would implicitly be expected. These impacts constitute unnecessary and undue degradation in light of the availability of mitigation measures of nominal inconvenience to the Operators.

Response: Please refer to our response to comment 13a.

Comment 150-13e: Seasonal stipulations for surface disturbance are proposed for important big game winter habitat, sage grouse and sharp-tail leks and crucial winter range, and raptor nests. DFEIS at B-1, B-2. These seasonal stipulations are insufficient in and of themselves, as the do no prevent roads and wells from being sited in sensitive habitats when the animals are not present, thereby degrading habitat quality during the crucial season.

Response: Chapter 4 of the EIS, at 4.7.3.1.2 explores in depth anticipated effects on big game, including Pronghorn Antelope (4-60 to 4-61, Mule Deer (4-61 to 4-62), and Elk (4-62 to 4-63). White tailed Deer are not expected to have any impacts. For all three species mitigations are expected to minimize impacts and long-term adverse impacts are not expected. For greater sage-grouse, please refer to our response to comment 22b. For raptors, please refer to our response to comment 19b.

Comment 150-13f: But in addition to this important shortcoming, seasonal stipulations are essentially meaningless because waivers are almost always approved on request. For all wildlife species, waivers to seasonal protections under the Desolation Flats project would be available at the Operator's request and the approval of the Authorizing Officer. DFEIS at B-1, B-2. The BLM's pathetic record of waiving these seasonal restrictions is a dismal proof that they are essentially voluntary and meaningless: Last winter, the Pinedale Field Office granted 38 of 42 exceptions (over 90%), Rock Springs Field Office granted 9 of 11 exceptions (82%), and the Rawlins Field Office granted 12 of 16 exceptions (75%). If the BLM is going to grant most exceptions to these seasonal stipulations, then major effects impacts to wildlife on sensitive ranges will continue to occur, and the mitigative value of these seasonal stipulations is voided. For these reasons, prohibitions on surface disturbance, rather than seasonal stipulations, are the minimum protections needed on sensitive wildlife habitats.

Response: First of all the terminology used is incorrect. There are two different types of seasonal restrictions. The first is in the form of a lease stipulation. A stipulation modifies standard lease rights and is made part of the lease document. Lease stipulations can be excepted, waived, or modified, per the regulations found at 43 CFR 3101.1-4. These lease stipulations are carried forward as part of the site-specific authorization, if applicable, as a COA attached to the APD. However, not all seasonal restrictions are lease stipulations. As a result of the environmental analysis conducted prior to authorizing an APD protective seasonal measures are also attached as a COAs. Waivers and modifications are substantial or permanent changes to the lease itself, and do not pertain to COAs. Exceptions do not change lease terms and address short term changes. Exceptions are also granted on COAs added to APDs as a result of environmental analyses. These too are short term changes. Generally exceptions are site-specific, for example may apply to only one well location, while the stipulation continues in other portions of the lease or nearby wells/activities, and are generally granted for only a short period of time when conditions allow it. The comment as presented does not reflect the true picture of how BLM protects wildlife species through use of seasonal restrictions. Considering the percentage of approved activity not occurring during times of seasonal restrictions would give a more accurate picture of BLM's efforts to protect wildlife and their habitats during critical periods.

Page B-3 on the DEIS, second paragraph states:

> "Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operations, applications for Permits to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis."

Exception requests when received are reviewed as needed by interdisciplinary specialists and the effects assessed. Interested agencies, such as the Wyoming Game & Fish Department are consulted as appropriate, and approval of requests occur when adherence to mitigation guidance is determined. Often, prior to submission of a request, operator desire to request an exception is discussed informally with BLM specialists to determine if such a request is possible. The request and alternatives are discussed and informal observations made. Proposals that cannot be approved on their face, or which the operator can't modify, or which consultation reveals undesirable impacts are denied. Most are approved because an exception request doesn't generally come forward for consideration until they appear to be an approvable request.

Comment 150-13g: Oil and gas development is occurring at a breakneck pace all across the Red Desert, and yet the DFEIS completely ignores the cumulative effects of the massive roading, habitat fragmentation, construction, and increased activity on the Red Desert's native wildlife.

Response: As detailed in Chapter 5 "Cumulative Impacts Analysis", potential cumulative impacts are assessed at the resource level in the DEIS. Cumulative effects to wildlife are detailed in section 5.3.7 "Wildlife".

Comment 150-13h: Thus, a credible cumulative impacts analysis is needed on the basis of the ecological needs of wildlife on a regional scale.

Response: The Desolation Flats EIS assesses environmental impacts within an area of approximately 234,000 acres, including cumulative impacts as detailed in our response to 13g. Impact assessment on a regional scale is outside the scope of the Desolation Flats EIS.

Comment 150-13i: NEPA does not allow the agency to skip a cumulative impacts analysis on the basis that agency personnel believe (in the absence of any scientific support, we might add) that mitigation measures are adequate to prevent cumulative impacts.

Response: Please refer to our response to comment 13g.

Comment 150-13j: Thus it is impossible to quantify or even estimate impacts to any wildlife species, because the agency has no idea to what degree and with what intensity impacts will occur in crucial habitat for a given wildlife species. Thus, the BLM is completely unable to provide the "hard look" required by NEPA and must go back to the drawing board, presenting a full disclosure of locations of site disturbances and a credible evaluation of subsequent impacts for each wildlife species.

Response: Please refer to our responses to comments 3a and 3b.

Subheading XIII: Habitat Fragmentation

Refer to BLM Policy 150-14 for the following responses.

Comment 150-14a: ...we urge the BLM to adopt a new Proposed Action that uses directional drilling and well clustering to minimize habitat fragmentation, and thus avoid the unnecessary and undue degradation of lands and resources inherent to the current proposed action.

Response: Please refer to our response to comment 6a.

Comment 150-14b: This massive habitat fragmentation is largely preventable through clustering many wells per well pads and drilling directionally; habitat fragmentation on the scale proposed in the Desolation Flats project is therefore unnecessary and undue degradation of the lands and resources in the DFPA. The BLM must choose an alternative course of action that does not entail this massive damage to landscapes and habitats.

Response: Please refer to our response to comment 6a for well pad clustering and directional drilling. The BLM will choose an alternative and disclose it with the supporting rationale in the Record of Decision, when it is made.

Comment 150-14c: Although the portion of the landscape physically disturbed by roads, wellpads, and pipelines is often a relatively small percentage of the overall landscape, GIS analysis of full field oil and gas development incorporating quarter-mile buffers to account for habitat degradation due to edge effects indicates that almost 100% of lands within a fully developed gas field are degraded (Weller et al. 2002). In this way, the development of an oil and gas field results in widespread habitat destruction that extends well beyond the acreage of roads and wellpads that are bulldozed in.

Response: BLM has not been able to estimate the extent of "edge" effects because at this time we do not know precisely where all roads, wellpads, and disturbances will occur. Edge effect is an impact. Habitat degradation from "edge" effects is disclosed in the Desolation Flats EIS. Effects on wildlife and habitats anticipated from the Desolation Flats project are disclosed in Chapter 4. Wildlife and Special Status Plant, Wildlife and Fish Species effects are detailed in section 4.7 and 4.8. Effects on vegetation and wetlands are in section 4.5 and effects to range and other land uses are in section 4.6.

Comment 150-14d: With this in mind, the BLM must analyze the effects of the intensive fragmentation of sagebrush Steppe by roads and wellpads, the effects of this fragmentation on shrew dispersal, the degree to which shrew populations would be split in small metapopulations, and the effects that such population shifts would have on vulnerability to inbreeding, stochastic disturbance events such as adverse weather or disease outbreaks, predation, and ultimately to the overall viability of shrew populations and meta populations.

Response: The Desolation Flats DEIS discloses in Chapter 3, part 3.8.1.3 "Special Status Plant, Wildlife, and Fish Species" on page 3-71 under "Mammals" that ten sensitive mammal species may potentially be found on the DFPA. The dwarf shrew is one of those. Of the ten species only one is known to be present, the white-tailed prairie dog. It is likely that the dwarf shrew is present within the DFPA. Chapter 4, (page 4-82, Proposed Action, Page 4-87, Alternative A, Page 4-89, no action) under "Wildlife" states that a small percentage of habitat proposed for disturbance within the DFPA under the Proposed Action in not expected to significantly impacts dwarf shrews, if they are present.

Comment 150-14e: The BLM must analyze the increase in predation on burrowing owls for all alternatives and reach conclusions about burrowing owl population dynamics that are supported by science.

Response: Western Burrowing Owls are known to be present within the DFPA. Effects on the Western burrowing owl by alternative are listed at Proposed Action page 4-83, alternative B 4-88, no action at page 4-89.

Comment 150-14f: The BLM has failed to conduct sufficient analysis of these impacts to warrant such a conclusion.

Response: Impacts to the Sage Sparrow, Brewer's Sparrow and Sage Thrasher are on page 4-83 for the Proposed Action. Alternative A effects are discussed on pages 4-87 and 4-88. The BLM believes that due to the abundance of suitable habitat present no significant impacts to this species are expected and sufficient analysis has been conducted.

Comment 150-14g: In light of these scientific findings the BLM must take the following steps in order to satisfy NEPA's requirements of a credible scientific analysis and hard look: (1) map the locations of all roads, pipelines, and well sites for the project in relation to the sagebrush steppe habitat found within the DFPA; (2) buffer all surface disturbing areas with a 100 m buffer and subtract this area from available sagebrush habitat; (3) analyze the size of remaining blocks of sagebrush habitat; (4) present this post-disturbance acreage of sagebrush habitat available to sage brush obligates passerines; and (5) then, and only then, analyze the population-levels effects of the Desolation Flats project on sagebrush obligate birds and present these results in the FEIS prior to reaching a decision on the project.

Response: As new roads, pipelines and well site locations are proposed by the operators, the BLM will review the proposals under NEPA with site specific EA's tiered to the Desolation Flats Record of Decision and in turn issue a decision record and apply mitigations for those proposals. That, coupled with the environmental analysis in the Desolation Flats analysis and decision will be sufficient to satisfy NEPA requirements. Site specific decisions will be tiered to the Desolation Flats EISs and Record of Decision and will be separate from the EIS process. Please refer to our response to comment 3a.

Subheading XIV: Big Game Ranges and Calving Areas

Refer to BLM Policy 150-15 for the following responses.

Comment 150-15a: As a result, winter ranges should be closed to all road-building and drilling activity year-round.

Response: The Desolation Flats EIS at pages 2-38 details several mitigations are described. For big game, no disturbance would occur in habitats designated as crucial big game winter range between November 15 and April 30. The remainder of the year these areas do not serve as crucial winter range normally and disturbance would have the effects described in Chapter 4. In addition, within big game crucial winter ranges, disturbance would be placed so that specific important vegetation types, as identified by the BLM, would be avoided where possible in order to reduce impacts to big game in crucial winter range.

Comment 150-15b: The BLM claims that each alternative in the DFEIS would result in "NSI {No Significant Impact} w/ mitigation" with regard to big game crucial winter ranges. DFEIS at 2-46. This is a completely unsupported and unsupportable assertion. Does the BLM argue new roads and wellpads in the heart of crucial winter range will have no impact on these ungulates?

Response: The effects BLM expects to result from the adoption of the various alternatives are detailed in Chapter 4 of the EIS. Effects are anticipated, however they are not expected to be significant.

Comment 150-15c: That increased traffic from snowplows and well maintenance, as well as noise from well operations, will not stress wintering animals or drive them away from optimal winter ranges and onto marginal habitat, where condition and chances for survival for the animals are degraded?

Response: Please refer to our response to comment 15b.

Comment 150-15d: The BLM's argument that no significant impacts will accrue from such actions ignores a large and unequivocal body of scientific evidence that contradicts this conclusion. The BLM's failure to take account of this evidence is a violation of NEPA's requirement that each EIS be held to a high standard of scientific integrity.

Response: The BLM's assertion that no significant impacts will accrue from such actions arises from the information disclosed in the DEIS, especially Chapter 4. The information in the EIS was gathered and prepared in compliance with NEPA by an interdisciplinary team of professional resource specialists using their best professional judgment in an integrated approach, as provided for in 40 CFR 1502.6. In addition numerous scientific references and citations are made throughout the document where appropriate.

Comment 150-15e: These candid assessments of the continuous level of vehicle traffic which would occur within crucial winter range if development were to occur within or nearby this sensitive habitat, and illustrate why oil and gas production facilities and access roads must never be sited on crucial winter ranges.

Response: As detailed on page 2-38, within big game crucial winter ranges, disturbance would be placed so that specific important vegetation types, as identified by the BLM, would be avoided where possible in order to reduce impacts to big game in crucial winter range.

Comment 150-15f: The BLM has failed to analyze the effects on increased vehicle traffic as well as snow-plowing that occurs on existing roads as a result of the new and increased level of development associated with the 385 new wells.

Response: The EIS in Chapter 4 states that with the use of BLM road standards, RMP stipulations, operator proposed mitigation measures, preconstruction planning and the site layout process described in Section 2.5.1 impacts to big game would be minimized in areas that contain sensitive resources.

Comment 150-15g: NEPA requires that the BLM take a "hard look" at impacts to wildlife, including the impacts of increased traffic and plowing on existing roads, and what this might mean to the survival and subsequent fecundity of elk and other ungulate utilizing crucial winter ranges. This analysis has not been done in the DEIS and must therefore be presented in the FEIS.

Response: Please refer to our response to comment 15f.

Subheading XV: Elk

Refer to BLM Policy 150-16 for the following responses.

Comment 150-16a: Thus, it is important to keep road construction out of crucial winter ranges to avoid displacing elk to marginal habitats at crucial times of the year."

Response: Please refer to our response to comment 15f.

Comment 150-16b: The maintenance of low road densities in important habitat areas is necessary to maintain healthy elk populations.

Response: As detailed on page 3-58 86.1 per cent of the DFPA is not classified as elk habitat. Of the remaining 4% are classified as year long, 9.1% winter year long range, and 0.8% is classified as crucial winter/year long range. As detailed on page 2-38, within big game crucial winter ranges, disturbance would be placed so that specific important vegetation types, as identified by the BLM, would be avoided where possible in order to reduce impacts to big game in crucial winter range.

Comment 150-16c: Thus, winter range areas should be withdrawn from the surface disturbance associated with oil and gas development.

Response: Please refer to our response to comments 15f and 16b.

Comment 150-16d: The BLM then waves its arms and makes a series of blatantly unsupported and unsupportable, statements.

Response: Supporting references are cited in Chapter 4, including section 4.7 and section 4.7.3.1.2 "Big Game".

Comment 150-16e: This series of statements is so contrary to the established science that it is baffling that the BLM could have reached a conclusion so out of touch with reality. This egregious analytical error discredits the BLM's scientific integrity and renders the EIS analysis on impacts to elk winter range completely worthless."

Response: Please refer to our responses to comments 16b, 15f, and 16d.

Comment 150-16f: The reduction of road densities on the winter ranges as a whole and the maintenance of low road densities in important habitat areas would aid in maintaining healthy elk populations.

Response: The BLM agrees with your statement, and feels the Desolation Flats EIS promotes such a condition.

Subheading XVI: Mule Deer

Refer to BLM Policy 150-17 for the following responses.

Comment 150-17a: Thus, due to the sensitivity of mule deer to disturbance on winter ranges and the crucial nature of winter range performance to maintaining healthy mule deer populations, mule deer winter ranges must be withdrawn from all road construction and development, particularly oil and gas development, which would increase the level of human disturbance on the winter ranges.

Response: Please refer to our response to comment 15f.

Subheading XVII: Pronghorn

Refer to BLM Policy 150-18 for the following responses.

Comment 150-18a: The mitigation measures in the DFEIS are insufficient to protect antelope populations in the Washakie Basin. Antelope of the Bitter Creek herd inhabiting the project area, are 41% below WGFD herd targets. DFEIS at 3-55. This indicates that this population is already stressed and should not be subjected to additional impacts to habitats, displacement from high-quality habitats, or additional physiological stress.

Response: In Chapter 4 of the EIS, under 4.7.3.1.2 "Big Game", at "Pronghorn Antelope" it is stated:

> "The application of mitigation described in Section 2.5.2.11.2 and 4.7.5 would minimize impacts, and long term adverse effects to pronghorn are not expected."

Comment 150-18b: This means keeping all surface disturbances off of pronghorn crucial winter range to avoid disturbance during the crucial winter season.

Response: Chapter 2 of the EIS, page 2-38 lists mitigation guidelines for wildlife. The first mitigation listed reads:

> "No disturbance would occur in habitats designated as crucial big game winter range between November 15 and April 30."

Comment 150-18c: "Nothing less that a prohibition of surface disturbing activities on crucial winter ranges actually minimizes the probability of adverse impacts.

Response: Please refer to our response to comment 18b.

Comment 150-18d: On crucial winter ranges, such vehicular activity in the midst of crucial winter range would potentially displace antelope from preferred habitats and/or increase the stress levels and metabolic expenditures for individual animals, either of which results in an elevated probability of over winter mortality or reduced fawn viability the following spring.

Response: Please refer to our response to comment 18b.

Comment 105-18e:

> "Disturbance of seasonal pronghorn ranges within the DFPA is not likely to reduce pronghorn carrying capacity within the Bitter Creek herd unit." DFEIS at 4-60.

This claim is baseless and unsupportable. There are no scientifically credible studies (published in peer-review journals) that indicate that oil and gas development on pronghorn winter ranges are without effect on pronghorn populations.

Response: The Desolation Flats EIS does not claim there is no effect on pronghorn antelope from this proposal, it states that pronghorn antelope carrying capacity is not expected to be reduced. Also, please refer to our response to comment 18b.

Comment 150-18f: In (sic) this climate of uncertainty, the BLM has the responsibility to protect pronghorns from impacts of unknown magnitude, rather than find out later that oil and gas development on crucial winter ranges does indeed cause a major decline in herd populations.

Response: Please refer to our response to comment 18b.

Subheading XVIII: Ferruginous Hawks and Other Raptors

Refer to BLM Policy 150-3 for the following responses.

Comment 150-19a: As a result, ferruginous hawks are of special concern and deserve the strongest protection available in the context of this project.

Response: The BLM agrees with this assertion and believes this project as proposed under any alternative meets this goal. The ferruginous hawk is listed as a "sensitive wildlife species" in the table on page 3-73, "Wildlife Species".

Comment 150-19b Thus, the BLM should establish adequate nest buffers (a minimum of 1 mile in diameter for all species, with larger buffers for ferruginous hawk around nest sites, preventing all construction of developments (such as wells and roads) that would lead to future disturbance of nesting raptors through focusing human activities in these areas.

Response: Mitigations for the protection of raptors, including ferruginous hawks, are detailed in Chapter 2, part 2.5.2.11.2 "Resource-Specific Requirements", page 2-38, in Chapter 4 part 4.7.5 "Additional Mitigation Measures", in 4.7.5 "Additional Mitigation Measures", and in Appendix H, "Wildlife Monitoring Plan". Mitigations provide for a 1 mile no disturbance zone for active raptor nests of listed or sensitive species during the critical nesting season (Feb.01-July 31) each year and a ¾ to ½ mile (depending on species or line of sight) for other raptor species. In addition No permanent above ground structures would be constructed within 300m or less, depending upon species and/or line of sight, of any raptor nest, on a site specific basis. Where the take of a raptor nest is unavoidable, the erection of 2 replacement artificial nesting structure may be required by the BLM.

Comment 150-19c: Seasonal restrictions are insufficient; a well or road constructed outside the nesting season is still likely to lead to nest abandonment or reductions in recruitment due to disturbance from vehicle traffic that does not occur during the nesting season.

Response: For the proposed action and alternative A, with implementation of mitigation measures in Sections 2.5.2.11.2 and 4.7.5 development of the proposed action would not significantly impact raptors, including the ferruginous hawk. Potential effects on raptors are detailed in 4.7.3.1.5 "Raptors". With implementation of mitigation measures, significant impacts are not expected in areas of overlapping resources. Given the application of mitigation measures, significant impacts to raptor nesting activities are not expected. Implementation of the proposed action is not expected to produce any appreciable long-term negative changes to the raptor prey base within the project area. Overall, significant impacts to raptors utilizing the DFPA are not expected (DEIS, page 4-68).

Comment 150-19d: Thus, a minimum of 1-mile buffers prohibiting surface disturbance should apply to ferruginous hawk nest sites as well as all other raptor nest sites.

Response: Please refer to our responses to comments 19b and 19c.

Comment 150-19e: Raptor nest buffers presented in the DFEIS are completely insufficient. Surface-disturbance activities, such as well, road, and pipeline construction, would be allowed as close as 1,200 feet from active ferruginous hawk nests and 825 feet of the nests of other raptor species, as long as construction activities occur outside the nesting season.

Response: Please refer to our responses to comments 19b and 19c.

Comment 150-19f: The 0.5 to 1-mile buffer zones around active raptor offer only seasonal protections and apply only to construction activities (see DFEIS at H-16); vehicle traffic, maintenance, and production activities can and will occur within a quarter mile of active raptor nests during the nesting season, with a strong likelihood of disturbing nesting raptors, causing temporary and/or permanent nest abandonment, and leading to the deaths of eggs and/or nestlings in the process. This is an unacceptable state of affairs, constitutes "unnecessary and undue degradation" to these wildlife populations, and therefore constitutes a violation of FLPMA.

Response: Please refer to our responses to Comments 19b and 19c. The proposed action and alternatives with stated mitigations as appropriate are consistent with the provisions of FLPMA.

Comment 150-19g: It is all well and good to prevent construction near nest sites while the hawks are present, but nests are used traditionally from year to year, and if a road or well site is constructed near a nest during the off-season, that nest site will be rendered non-viable the following year when the hawks return to their nesting territory.

Response: There is a detailed discussion of anticipated effects from the proposed action in the last paragraph of page 4-67, including a discussion of mitigation measures and those cases where a "take" of a raptor nest might occur. The DEIS states:

> "Given the application of these mitigation measures, significant impacts to nesting activities are not expected."

Comment 150-19h: Thus, historic as well as active nests deserve a strong degree of protection for traffic-related surface disturbances. The BLM must emplace solid, year round protections that prevent the construction of roads and well-sites, which will inherently receive regular vehicle traffic throughout their productive lifetimes, regardless of nesting seasons, within 1 mile of ferruginous hawk nests, both active and historic.

Response: Please refer to our response to 19g. In addition, impacts to ferruginous hawks are discussed on page 4-85 (Proposed Action) and on page 4-88 (Alternative A).

Comment 150-19i: In addition, mitigation measures in section 4.7.4.1.6 are once again referenced, and yet no such section can be found in the DFEIS.

Response: The appropriate Section can be found at 4.7.3.1.5.

Comment 150-19j: The take of even inactive nests must therefore be done outside the nesting season and with the full involvement of the USFWS.

Response: The "take" of inactive nests is discussed in part in the last paragraph of page 4-67 of the DEIS. Further discussion of "take" can be found in page H-17 of the "Wildlife Monitoring Plan", Appendix H, including the need to consult with and obtain permits from US Fish and Wildlife Service. "Take" is also mentioned in Chapter 2, page 2-38, "Project Wide Mitigation Measures", and details that all appropriate permits would be acquired when necessary.

Comment 150-19k: The overall landscape-scale effects of widespread industrialization threaten the viability of raptor populations through habitat loss and fragmentation. Nest buffers currently in force are unlikely to safeguard the viability of native raptors in the Great Divide; a more conservative approach is needed to order to safeguard raptor viability in this region.

Response: Please refer to out responses to 19b and 19c.

Comment 150-19l: Thus, not only should nest buffers be implemented, but the overall integrity of the landscape should be maintained (or improved in areas where it is currently degraded) in order to better provide for raptor viability.

Response: Please refer to out responses to 19b and 19c.

Subheading XIX: Burrowing Owls

Refer to BLM Policy 150-19 for the following responses.

Comment 150-19m: First of all, the BLM should make the aforementioned burrowing owl surveys mandatory, rather than something the Operator "should" do.

Response: The text has been corrected to read "will" instead of "should".

Comment 150-19n: We were unable to locate a section 4.7.4.1.6.

Response: The appropriate Section can be found at 4.7.3.1.5.

Comment 150-19o: ...urge the BLM to implement a 1-mile buffer of no surface disturbance around any active or known burrowing owl nest, and not to allow activities within the buffer after the owls have departed the nest, in order to maintain the viability of nest site locations from year to year and to prevent active nest sites from being impacted during the off-season.

Response: Please refer to our responses to comments 19b and 19c.

Subheading XX: Peregrine Falcon

Comment 150-20: With this information in mind, the BLM should re-examine its analysis of impacts to peregrine falcons in the FEIS.

Response: As detailed in the DEIS at 4-84, "Peregrine Falcon", there is a lack of suitable habitat within the Desolation Flats project area.

Subheading XXI: Wolves

Refer to BLM Policy 150-3 for the following responses.

Comment 150-21a: There is no analysis of the effects of the Desolation Flats project on the dispersal or recovery of gray wolves in the southern Red Desert in the DFEIS.

Response: As detailed on page 4-73, under "Threatened, Endangered, or Proposed for listing Species of Plants, Wildlife, and Fish", the gray wolf is not listed by the Fish and Wildlife Service as a species that occurs within the Desolation Flats Project Area.

Comment 150-21b: The BLM must initiate a Section 7 consultation with the USFWS concerning the possible impacts to the Desolation Flats project on dispersing wolves (and also the potential of eventually wolf colonization of the DFPA). The BLM must also present a credible impacts analysis of the effect of full-field development on wolf recovery in this area.

Response: Please refer to our response to comment 150-21a above.

Subheading XXII: Sage Grouse

Comment 150-22a: We urge the BLM to comply with all of Dr. Brauins expert recommendations regarding sage grouse in the FEIS.

Response: BLM believes the mitigation measures proposed for the DFPA, and as detailed in the DEIS are sufficient to protect the greater sage-grouse in the DFPA. Please refer to our response to comment 150-6e. 4.7.3.1.4 "Upland Game Birds" page 4-67 states in part:

> "Through seasonal closures, reclamation, avoidance, and mitigation measures, significant impacts to the greater sage grouse population would not be expected to occur as a result of implementation of the Proposed Action."

Comment 150-22b: It is crucially important that the Desolation Flats project include stronger mitigation measures to provide for the maintenance and recovery of sage grouse populations, because this bird is headed for the Endangered Species List if population losses continue.

Response: Please refer to our response to comment 150-6e. 4.7.3.1.4 "Upland Game Birds" page 4-67 states in part:

> "Through seasonal closures, reclamation, avoidance, and mitigation measures, significant impacts to the greater sage grouse population would not be expected to occur as a result of implementation of the Proposed Action."

Comment 150-22c: But Clait Braun (pers. Comm..) the worlds most eminent expert on sage grouse, recommended even larger NSO buffers of 3 miles from lek sites, based on the uncertainty of protecting sage grouse nesting habitat with smaller buffers.

Response: Please refer to our response to comment 22b.

Comment 150-22d: Because leks sites are used traditionally year after year and represent selection for optimal breeding and nesting habitat, it is crucially important to protect the area surrounding lek sites from impacts. Thus, the prohibition of surface disturbance within 2 miles (minimally) or 3 miles (optimally) of a sage grouse lek is the absolute minimum starting point for sage grouse conservation.

Response: Please refer to our response to comment 22b.

Comment 150-22e: These measures are clearly insufficient, because they would allow construction of roads and well pads in the area between ¼ and 2 miles of the lek site, creating major impacts to sage grouse during the crucial nesting season.

Response: Please refer to our comments to 22b. Further, on page 4-72 of the DF DEIS, BLM has proposed additional mitigation to avoid quality nesting habitat within 2-miles of a greater sage grouse lek. The analysis concludes implementation of this mitigation measure could further lessen the potential impact of reduced sage-grouse nesting success.

Comment 150-22f: A detailed study of nesting habitat use is therefore needed to identify all important nesting area in the FEIS, and NSO protective measures must be extended to all identified nesting areas.

Response Please refer to our response to comments 14g and 22b.

Comment 150-22g: Brood rearing habitats should thus be identified and managed to maximize sage grouse recruitment success through protective measures laid out in the FEIS.

Response: Please refer to our response to comment 22b.

Comment 150-22h: Additional measures are needed to protect sage grouse wintering habitat, for both severe winters and normal winters.

Response: Please refer to our response to comment 22b.

Comment 150-22i: The DEIS makes no attempt to identify sage grouse crucial winter ranges that are used during ordinary winters, merely the habitats that are used by grouse during exceptionally severe winters, which might come once or twice a decade.

Response: The Wyoming Game and Fish Department is currently assembling a map of sage grouse winter habitats for the Desolations Flats Area, but it has not been completed. During most years winter habitat for sage grouse is not a limiting factor in sage grouse populations.

During extreme winters with deep snow the severe winter relief areas depicted in Figure 3-14 become critical to sage grouse survival and should be protected.

Comment 150-22j: This is an unacceptable oversight on the part of the BLM, and the agency must identify grouse crucial winter habitat for ordinary winters in the FEIS and also provide protective measures that assure that this important habitat is not degrade by gas development or road-building.

Response: Please refer to our response to Comment 22b.

Subheading XXIII: Wyoming Pocket Gophers

Comment 150-23a: The BLM argues that the proposed full-field development of the DFPA will have "no significant impacts on this species" DFEIS at 4-82. From what analysis does the BLM derive this highly dubious conclusion?

Response The analysis of impacts to Sensitive species of plants wildlife and fish, including the Wyoming Pocket Gopher, are detailed in Chapter 4, including section 4.8.2 "Sensitive Species of Plants, Wildlife, and Fish."

Comment 150-A23b: No data are presented regarding expected effects of the project on mortality, recruitment, or behavior of this species that suggest that an industrial development on this massive scale would have no negative effect on Wyoming pocket gophers.

Response: Please refer to our response to comment 23a.

Subheading XXIV: Mountain Plovers

Comment 150-24a: Oil and gas development in nesting concentration areas is a direct threat to mountain plover population viability.

Response: For the proposed action, the DEIS, on page 4-75 states in part:

> "Mountain plovers often nest near roads, feed on or near roads, and use roads as travel corridors (USDI-FWS 1999), all of which make the species susceptible to being killed by vehicles."

Further on in the text, at page 4-76 it is stated:

> "Given the implementation of mitigation measures in Sections 2.5.2.11.2 and 4.8.1.4, no adverse effects to mountain plovers are expected."

Alternative A effects are discussed on page 4-78.

Comment 150-24b: In addition to these problems, wellfield development can lead to increased invasion rates of non-native weed species, which can have serious impacts on plover nesting habitat by decreasing the availability of the bare ground (Good et al. 2001).

Response: Mitigations for invasive/non-native species are detailed page 2-37 and 2-38 in Chapter 2. Further on in the text, at page 4-76 it is stated:

> "Given the implementation of mitigation measures in Sections 2.5.2.11.2 and 4.8.1.4, no adverse effects to mountain plovers are expected."

Alternative A effects are discussed on page 4-78.

Comment 150-24c: This lack of a hard requirement is both disconcerting and inadequate to protect nesting plovers. In addition, where plovers are found, construction activities would be postponed (but not halted) until 1 week post-hatching. This measure would guarantee that while plover nesting could continue during the construction season, plover nesting habitat would be destroyed for all future years, until such time that the project had ended (30-50 years in the future) and roads and wellpads were finally reclaimed. This is a major and significant impact in and of itself to plover nesting habitat.

Response: Disturbance of mountain plover nesting habitat is discussed on page 4-75. In Chapter 4, at page 4-76 it is stated:

> "Given the implementation of mitigation measures in Sections 2.5.2.11.2 and 4.8.1.4, no adverse effects to mountain plovers are expected."

Alternative A effects are discussed on page 4-78.

Comment 150-24d: The BLM claims that each alternative in the DFEIS would result in "NSI w/ mitigation" with regard to mountain plovers DFEIS at 2-46. This is completely unsupported and unsupportable assertion.

Response: This assertion is supported in Chapter 4, including on page 4-75 and 4-76 for the proposed action, and 4-78 for alternative A.

Comment 150-24e: In order to prevent significant impacts to plovers, the BLM must provide prohibitions on surface disturbance for all plover nesting concentrations within a ½ mile buffer to prevent elevated structures (which become raptor perches) from being constructed within sight distance of nesting concentration areas, and nearby roads becoming ecological traps for plover adults and their chicks.

Response: Mitigating measures for mountain plovers, including raptor perch inhibitors and spacing buffers are detailed in Sections 2.5.2.11.2 and 4.8.1.4 of the DEIS. Alternative A effects are discussed on page 4-78. In Chapter 4, at page 4-76 it is stated:

> "Given the implementation of mitigation measures in Sections 2.5.2.11.2 and 4.8.1.4, no adverse effects to mountain plovers are expected."

Subheading XXV: Prairie Dogs

Comment 150-25a: The importance of conserving the white-tailed prairie dog because it is imperiled, declining, and designated as a BLM Sensitive Species and because it is extremely important in supporting healthy populations of other imperiled, declining, and BLM Sensitive Species is completely overlooked, and the resulting analysis is inadequate.

Response: Mitigations for white-tailed prairie dogs are discussed generally in Chapter 2, and specifically on page 2-39. The presence of white-tailed prairie dogs and the affected environment are discussed in Chapter 3, especially on pages 3-71 and 3-73. Prairie dogs are also discussed in Chapter 4, especially on pages 4-74 and 4-82. The two sentences before your quotation (page 4-82) read:

> "If white-tailed prairie dog colonies that provide suitable black-footed ferret habitat are to be disturbed, then black-footed ferret surveys would be conducted (see section 4.8.1.2.1). It is preferred by the BLM that no disturbance occur within 50 meters of prairie dog colonies, where feasible."

Comment 150-25b: DEIS underestimates the likely impacts to white-tailed prairie dogs and associated species in several ways, and as a result, fails to take the requisite "hard look" at the potential environmental consequences.

Response: Please refer to our response to comment 25a.

Comment 150-25c: First, the BLM has no idea where these wells will be located.

Response: Please refer to our response to comments 3a and 3b.

Comment 150-25d: Second, the BLM makes the unsupported assumption that most impacts to prairie dogs will be temporary.

Response: Please refer to our response to comments 3a and 3b.

Comment 150-A25e: It seems impossible to support this statement without knowing where the disturbance is planned.

Response: The two sentences before your quotation (page 4-82) read:

> "If white-tailed prairie dog colonies that provide suitable black-footed ferret habitat are to be disturbed, then black-footed ferret surveys would be conducted (see section 4.8.1.2.1). It is preferred by the BLM that no disturbance occur within 50 meters of prairie dog colonies, where feasible."

Also, please refer to our response to comment 25a.

Comment 150-A25f: Thus the project could easily impact five generations of prairie dogs, which cannot be construed as a temporary effect for those populations."

Response: Expected effects on white-tailed prairie dogs are discussed in Chapter 4, especially on pages 4-74 and 4-82. It states at 4-82:

> "The anticipated disturbance of white-tailed prairie dog colonies is expected to be low, and no significant impacts to the white-tailed prairie dogs are expected."

Comment 150-A25g: Unfortunately, the vegetation that does become established is likely to consist of noxious weeds, which may permanently alter habitat quality.

Response: Chapter 4 on page 4-49, in the second to the last paragraph states:

> "However, with implementation of best management practices and proposed mitigation measures, including non-native species establishment and invasion monitoring and remediation, no significant impacts are anticipated"

Comment 150-A25h: Therefore, increased predation may result from shrub removal and this effect may also last for generations.

Response: Please refer to our response to comment 25f.

Comment 150-25i: While the DEIS does include increases in roadkills and illegal poaching as "principal wildlife impacts likely to be associated with the Proposed Action or alternatives" (p.4-56), it does not discuss these impacts in the General Wildlife section, and does not consider the fact that prairie dog shooting is legal and unregulated in Wyoming.

Response: Impacts to wildlife from road kills are discussed in the General Wildlife section for big game on page 4-59, for antelope on page 4-61, for mule deer on page 4-62, for elk on page 4-63, and for all species of wildlife in the Introduction on page 4-56. Prairie dog shooting is controlled by the Wyoming Game and Fish Department, and is outside the scope of the Desolation Flats DEIS. Text was added to Chapter 4 to disclose that increased shooter access to the DFPA could result in increased mortality to targeted species.

Comment 150-25j: In the absence of site-specific locations for road, pipeline, and well construction, the BLM has no way of knowing or accurately forecasting where disturbance will take place, and the agency is therefore in no position to speculate about the proportion of prairie dog colonies that would be subjected to full-field development with all its associated impacts. The BLM's conclusory statement on the lack of impacts to prairie dogs is therefore arm-waving in the absence of any credible data whatsoever, a wild guess with no scientific integrity or credibility. The BLM must rectify this absence of analysis by publishing the locations of proposed developments, quantifying the percentage of prairie dog colonies that would be impacted by oil and gas development (including roadkill mortality, increased predation due to the creation of raptor perches, and increased human-induced mortality through shooting and poisoning in response to increased vehicular access), and presenting a thorough analysis of these impacts on the viability of individual prairie dog colonies.

Response: For the absence of site specific locations and accurately forecasting where disturbance will take place, please refer to our response to comment 3a and 3b. For your assertion regarding the absence of credible data, the existing environment is detailed in Chapter 3, and relative to white-tailed prairie dogs (and black footed ferrets) on page 3-64 to 3-66. Further information is disclosed in Chapter 4, especially in 4.8.2 "Sensitive Species of Plants, Wildlife, and Fish", including the environmental effects of the proposed action. The BLM will publish the locations of proposed developments, quantify the extend and impacts of disturbance of prairie dog colonies, if any, in a thorough NEPA analysis in response to APD's submitted by the Operators on a site-specific basis tiered to the Desolation Flats Record of Decision.

Comment 150-25k: The DEIS also does not consider the long term impact that the presence of wells and other structures may have in providing perches for raptors, which may increase prairie dog predation.

Response: The Desolation Flats DEIS in Chapter 4, page 4-82 states in part:

> "If white-tailed prairie dog colonies that provide suitable black-footed ferret habitat are to be disturbed, then black footed ferret surveys would be conducted (see Section 4.8.1.2.1). It is preferred by the BLM that no disturbance occur within 50 meters of prairie dog colonies, where feasible."

On page 4-74, "Black-Footed Ferrets", the EIS states in part:

> "Adverse impacts to black-footed ferret habitat from implementation of the Proposed Action would be avoided by not allowing surface disturbance within 50 meters of white tailed prairie dog colonies."

The use of raptor perch preventers will be discussed in the Desolation Flats final EIS in more detail.

Comment 150-25l: Each of these omissions and miscalculations on the BLM's part contributes to the inaccurate assessment that impacts to white-tailed prairie dogs and associated species will be temporary, when the real result is likely to be long-term habitat conversion.

Response: Please refer to our responses to comments 25f through 25k.

Comment 150-25m: The few mitigation measures for white-tailed prairie dogs and their associates have no teeth—they are completely discretionary.

Response: Mitigation measures are discretionary—for the BLM, not for Operators. The Agency may choose to utilize mitigation measures as it deems appropriate, based on interdisciplinary review and input. Site specific NEPA will provide the basis for a review by the authorized officer, and when a choice is made by BLM that includes mitigation measures, implementation of the approved action is not discretionary for the operator.

Comment 150-25n: The BLM has settled for merely recommending avoiding disturbance on prairie dog colonies rather than clearly prohibiting disturbance in these areas, or at least giving some sort of framework explaining under what circumstances disturbance would be allowed.

Response: The Desolation Flats DEIS in Chapter 4, page 4-82 states in part:

> "If white-tailed prairie dog colonies that provide suitable black-footed ferret habitat are to be disturbed, then black footed ferret surveys would be conducted (see Section 4.8.1.2.1). It is preferred by the BLM that no disturbance occur within 50 meters of prairie dog colonies, where feasible."

The circumstances that would result in siting ground disturbing operations in prairie dog colonies could occur when no feasible alternative exists to locating the site in a prairie dog town.

Comment 150-25o: BLM should formally recognize in the FEIS that available oil and gas technologies, including directional drilling, allow such protections of prairie dog colonies to be feasible in all cases, without exceptions.

Response: There is a detailed discussion of directional drilling, including multi-well single pad designs occurs on page 2-14 and 2-17, including Figure 2-4 on page 2-16. The EIS states that when a surface location is not feasible to occupy for a variety of reasons, the Operators may use directional drilling to extract resources. BLM expects that directional drilling may be feasible in some cases, possibly even in many cases, but is not feasible in all cases.

Comment 150-25p: As the DEIS reads now, disturbing prairie dog colonies could be allowed at the whim of the Operator.

Response: Please refer to our response to comment 25m.

Comment 150-25q: The BLM has not presented evidence that habitat destruction and fragmentation coupled with increased mortality in these complexes which represent over 9900 acres of active white-tailed prairie dog colonies will not contribute to the need to list the white-tailed prairie dog under the ESA.

Response: The DEIS, in Chapter 3, page 3-65 discloses that 59 prairie dog colonies totaling 9,967 acres in extent are found in or near the DFPA. Of those colonies, 5,738 acres are actually within the DFPA. These colonies form two complexes where suitable habitat for black footed ferrets could exist. While suitable habitat seems to be present, black footed ferrets are not known to exist in the area. Habitat disturbance will be limited by the BLM to only those situations where there is no feasible alternative. The extent of habitat disturbance within the DFPA is expected to be small (page 4-82). In addition, please refer to our response to comment 25g.

Comment 150-25r: It (BLM) has not compiled information on population dynamics, current threats, or habitat needs for white-tailed prairie dogs. It has not evaluated the significance of these two complexes or how the proposed action would contribute to maintaining or restoring the white-tailed prairie dog. The BLM has not yet developed habitat or population management objectives for white-tailed prairie dogs at any scale—not for this project, not for Wyoming, and not range wide. Therefore, the BLM cannot ensure that approving this project is consistent with white-tailed prairie dog management objectives.

Response: The significance of the two prairie dog complexes is evaluated in Chapter 3, on page 3-65, and in Figure 3-15. Among the references cited are Hillman and Clark, 1980, Fagerston 1987, and Biggins, et al, 1989, USDI FWS 1989. The effects of the proposed action are disclosed in Chapter 4, especially on page 4-74 and page 4-82. Also in Chapter 4, on page 4-81 at 4.8.2, the DEIS states in part:

> "The BLM views management of sensitive species as an opportunity to practice pro-active conservation; this management should not be onerous, or a show stopper of other legitimate, multiple use activities (USDI-BLM 2001).

Further down on the same page, under "Impact Significance Criteria", the DEIS states that impacts to BLM Wyoming state sensitive plant, wildlife and fish species would be considered significant if the following was to occur: project related impacts jeopardize the persistence of any BLM Wyoming state sensitive plant, wildlife, or fish species. On page 4-82 the DEIS states:

> "The anticipated disturbance of white-tailed prairie dog colonies is expected to be low, and no significant impacts to the white-tailed prairie dogs are expected."

Approving this project is consistent with white-tailed prairie dog management objectives.

Comment 150-25s: The BLM should also coordinate with the multi-state prairie dog conservation team to determine how the development of these large complexes may affect the state's attempts to determine how the development of these large complexes may affect the states' attempts to conserve the white-tailed prairie dog and avert ESA listing.

Response: This is outside the scope of the Desolation Flats Project.

Comment 150-25t: Now the BLM proposes to permit the conversion of a 9400+ acre white-tailed prairie dog complex to oil and gas development with only discretionary mitigation.

Response: Please refer to our response to comment 25m.

Comment 150-25u: Until white-tailed prairie dog status is better understood, the BLM and other federal agencies should take a precautionary approach in managing large complexes.

Response: Please refer to our response to comments 25q and 25r.

Comment 150-25v: ....it (BLM) has not considered the impacts or reducing the favorability of this area as a potential ferret reintroduction site.

Response: The BLM is unaware of any such proposals or plans. Re-introduction of black footed ferrets is outside the scope of the DEIS.

Comment 150-25w: The BLM also makes the connection between other imperiled species like the BLM sensitive western burrowing owl and the proposed Threatened mountain plover and prairie dogs, but does not consider the consequences the prairie dog habitat loss could have on these species.

Response: The DEIS states in Chapter 4, on page 4-83:

> "The number of burrowing owls observations within the DFPA indicate that surveys for this species should be made prior to construction in prairie dog colonies during the owl breeding /nesting season. If nesting owls are found, the same measures used for other raptor species (see Section 4.7.4.1.6) would be applied. Given these precautionary measures, no adverse impacts to this species are expected to result from the implementation of the Proposed Action."

The effects of any prairie dog habitat loss is not directly assessed for mountain plover, however effect of the proposed action on mountain plovers is detailed in Chapter 4, on pages 4-75 and 4-76. In addition, please refer to our response to comment 24a.

Comment 150-25x: The BLM must also fully evaluate the significance of lands administered by the BLM or actions undertaken by BLM in conserving, maintaining, and restoring these species, and the BLM must determine the occurrence, distribution , abundance, condition, population dynamics, habitat conditions and needs, and current threat of and to these species.

Response: For lands outside the DFPA, this is outside of the scope of the Desolation Flats EIS. For lands inside the DFPA this evaluation occurs in Chapter 3 and Chapter 4 of the EIS.

Comment 150-25y: For all of these reasons, the BLM must provide meaningful and enforceable protections for white-tailed prairie dog colonies and for other Sensitive species within the Project Area.

Response: Protective actions or mitigations proposed for wildlife, including white-tailed prairie dogs, are detailed in Chapter 2 of the EIS, especially on page 2-38 and 39, and Chapter 4 on page 4-79 and 80 for the proposed action.

Comment 150-25z: The DEIS does not consider how this project could affect black-footed ferret recovery.

Response: The DEIS does not consider how this project could affect black-footed ferret recovery, that is outside of the scope of the DFPA. It does however evaluate the effects of the proposed action and alternatives in Chapter 4 for black-footed ferrets within the DFPA.

Refer to BLM Policy 150-3 for the following responses.

Comment 150-25aa: However, the DEIS presents no evidence that the Fish and Wildlife Service has been apprised or has determined that this area is not essential to black-footed ferret recovery.

Response: Consultation with the US Fish and Wildlife Service has occurred and concurrence obtained prior to the issuance of a Record of Decision. Black-footed ferret discussion in the Biological Assessment can be found in Appendix I at page I-4 through I-7

Comment 150-25bb: Approving this project now violates NEPA's prohibition on interim actions.

Response: The DEIS does not approve any actions for the DFPA. Any approval will occur from the Record of Decision, which will be issued after the Final EIS and other steps occur.

Comment 150-25cc: The current Great Divide Resource Management Plan does not address prairie dog management, but this problem should be redressed through revision.

Response: Presumably you mean revision of the RMP. Revision of the RMP, and the issues such would address are outside the scope of the DEIS. Also please refer to our response to comment 2a.

Comment 150-25dd: Approving this project now will have adverse environmental impacts and limit the choice of alternatives that conserve white-tailed prairie dogs and associated species in the revised RMP.

Response: Please refer to our response to comment 25bb.

Comment 150-25ee: This area has been nominated for ACEC designation.

Response: Designation of the Dad prairie dog complex as an ACEC is being considered under the Rawlins RMP revision process. No disturbance in prairie dog colonies will be authorized that would damage its suitability for consideration as an ACEC under the DFPA until this issue is decided.

Comment 150-25ff: Approving the project may remove this site from consideration as a black-footed ferret reintroduction site.

Response: Re-introducing black footed ferrets into the Desolation Flats project area is outside of the scope of the Desolation Flats EIS. The BLM is not aware of any proposals being actively considered for this action.

Comment 150-25gg: Clearly, approving this project based on the limited analysis and purely discretionary mitigation measures in the DEIS would be arbitrary and capricious and would support the position that only ESA listing will be adequate to stem white-tailed prairie dog declines and promote recovery since the state federal agencies continue to fail to manage this species proactively.

Response: For "limited analysis" please refer to our response to comment 25a. For "purely discretionary mitigation measures" please refer to our response to comment 25m.

Subheading XXVI: Endangered and Sensitive Fish

Comment 150-26a: The BLM's analysis of the effects of the Desolation Flats project on BLM Sensitive fishes in Muddy Creek (the bluehead sucker, roundtail chub, and flannelmouth sucker) and the Colorado River Endangered fishes downstream of the project area (the bonytail, razorback sucker, humpback chub, and Colorado pikeminnow) are completely insufficient.

Response: The effects of the proposed action are analyzed for Special Status fish species in Chapter 4, especially on pages 4-73, (Threatened, Endangered or Proposed for Listing Species of Plants, Wildlife and Animals, including bonytail, Colorado pike minnow, humpback chub and razorback sucker), and pages 4-76/77 (environmental effect expected to the those fishes from the proposed action), and page 4-78 for alternative A. Sensitive species of fish are also found in Chapter 4, especially on pages 4-86 and for Alternative A page 4-89. The EIS concludes that implementation of the proposed action is not likely to adversely affect these fish species. The BLM believes the effects analysis on fish is sufficient for the DFPA.

Comment 150-26b: According to the DFEIS, Red Wash has been classified as a Class 3 stream by WDEQ, indicating that it currently or potentially supports non-game fishes. And yet the BLM has failed to list the species present in Red Wash.

Response: The DEIS, in Chapter 3, at 3.8.1.2 page 3-68 states:

> "Surface water is scarce and perennial streams within the DFPA are limited to the most downstream portion of the Sand Creek drainage during wet years (see Section 3.4.2.1)."

In the next paragraph it is stated

> "None of these fish species are likely to be found in streams within the DFPA, nor has critical habitat been established in Wyoming for any of these species (Upper Colorado River Endangered Fish Recovery Program, 1999)"

On page 3-39 the DEIS states in part "

> "All streams within the project area are Class 5 streams (incapable of supporting fish) (WGFD 1991).

On page 3-37 the DEIS states:

> "There are no naturally occurring lakes or ponds in the project area."

Comment 150-26c: Are the bluehead sucker, flannelmouth sucker, or roundtail chub present in this stream? This is important baseline data to gather prior to completion of the EIS so that impacts to these species as a result of the Desolation Flats project could possibly be quantified.

Response: Please refer to our response to comments to 26a and 26b. Due to the absence of perennial water and hence fish within the stream, the BLM does not anticipate effects upon fishes you refer to.

Comment 150-26d: How will this increase in potentially toxic sediment impact the three species of BLM sensitive fishes in the Muddy Creek drainage, or the four species of Endangered fishes downstream in the Little Snake and Yampa Rivers?

Response: The Proposed Action is not expected to affect this habitat provided that mitigation measures for water and soils outline in the document are implemented. Please refer to our response to comments 26a and 26b.

Comment 150-26e: Once again, the BLM's failure to present the siting locations for wells, pipelines, and roads prevents the agency from completing the required analysis of environmental impacts.

Response: Please refer to our responses to comments 3a and 3b.

Comment 150-26f: This is a candid admission on the part of BLM that because the agency does not know precisely where (and how close to waterways, and on what types of soils) surface disturbance will occur, it cannot assess the magnitude of impacts to surface waters.

Response: Please refer to our responses to comments 3a and 3b.

Comment 150-26g: What are the effects of seepage of toxic compounds, whether produced water or other drill wastes, on fishes in Muddy Creek and the Little Snake and Yampa systems?

Response: Please refer to our comments to 26a and 26b.

Comment 150-26h: The cumulative effects analysis on Endangered and Sensitive fish species is completely inadequate due to the omission of the Atlantic Rim Coalbed Methane Project from the cumulative effects analysis.

Response: Cumulative effects from the Atlantic Rim Project are detailed on pages 5-3 and 4 of Chapter 5, "Cumulative Impact Analysis".

Subheading XXVII: Plant Species of Concern

Comment 150-A27a: The BLM must present a spatial analysis of the occurrence of "habitat judged important for survival" for plant species of concern.

Response: The DEIS discloses that there are one threatened plant species ("Ute Ladies-tresses") present within the DFPA, and one known sensitive plant species, "Gibben's beardtongue". 10 sensitive plant species are unlikely to be present, and 10 species are possibly present. On the ground surveys for sensitive and threatened plants will be conducted in response to site specific APD's and other proposals. When the presence of threatened or endangered plant species is detected, disturbance activities will be moved away from occupied habitats to ensure their security and survival as individuals and as a population. A map of "habitat judged important" is not necessary to ensure adequate protection for threatened and endangered plants within the DFPA.

Comment 150-27b: Secondly the BLM must define in an unequivocal way the magnitude or level of impact that "would threaten the viability of the local population."

Response: Please refer to our response to comments 3a and 3b. Please refer to page 2-37 "Vegetation and Wetlands" under 2.5.2.11.2 "Resource-Specific Requirements" for applicable mitigations and further guidance. Also please refer to our response to comment 150-27a.

Comment 150-27c: Finally, and perhaps most importantly, a spatial presentation of wells, roads, and pipeline layouts is a prerequisite to determining to what extent roads, wells and pipeline will impact the habitats of these plant species of concern.

Response: Please refer to our response to comments 3a and 3b. Impacts to plant species of concern are detailed in Chapter 4, part 4.8 "Special State Plant, Wildlife, and Fish Species". Impacts of either action alternative are detailed on page 4-77. Implementation of the Proposed Action is not expected to impact threatened plant species, and no significant impacts to sensitive plant species are anticipated.

Comment 150-27d: While this may be true, the fact that the locations of roads, wells and pipeline is unknown to the BLM renders it impossible for the agency to determine to what extent roads wells, and pipelines will impact the habitats of these plant species of concern.

Response: Please refer to our response to comments 3a and 3b.

Subheading XXVIII: Noxious Weeds

Comment 150-28a: But what about weed sites brought in from off-site on mud-encrusted construction drilling or production vehicles? Will there be a requirement to power wash all equipment, pickup trucks, and other weed-seed transporter prior to entering the DFPA? Such a measure should be mandated in the FEIS.

Response: Mitigations for invasive/noxious weeds are detailed on page 2-37 "Invasive/non-native Species". The DEIS, in Chapter 4 on page 4-49 states in part:

> "However, with implementation of best management practices and proposed mitigation measures, including non-native species establishment and invasion and remediation, no significant impacts are anticipated."

Comment 150-28b: This statement indicates that current management practices are failing miserably at preventing the invasion of noxious weeds, and that addition, stronger steps must be taken in the future

Response: Mitigations for invasive/noxious weeds are detailed on page 2-37 "Invasive/non-native Species". The DEIS, in Chapter 4 on page 4-49 states in part:

> "However, with implementation of best management practices and proposed mitigation measures, including non-native species establishment and invasion and remediation, no significant impacts are anticipated."

Subheading XXIX: Paleontological Resources

Comment 150-29a: All these classes require ground reconnaissance at a minimum which cannot be satisfied through a mere "spot check survey"

Response: Detailed surveys will be conducted when site specific proposals are received tiered to the Desolation Flats Record of Decision, whatever it is. Also, please refer to our response to comments 3a and 3b

Comment 150-29b: The FEIS must unconditionally require detailed surveys prior to all surface disturbing activities, regardless of geologic formation type.

Response: Refer to our response to comment 29a.

Subheading XXX: Cultural Resources.

Comment 150-30a: ...it is apparent that BLM has not taken adequate procedural steps to ensure that important known and unknown cultural resources in the DFPA will be protected in the wake of increased energy development. Instead of taking the required "hard look", the BLM has at best, taken only a cursory glance at the potential impacts to the cultural resources in the area.

Response: When any undertaking, as defined in 36 CFR 800.16(y), is proposed in the study area, a Class III cultural resource inventory (as defined in the Cultural Resources Appendix B included in the FEIS) will be conducted to determine if any cultural resources are within the Area of Potential Effect (APE). Any cultural resources found will be evaluated as to eligibility for the NRHP and if found to be eligible, mitigation measures will be carried out to protect the cultural resource. These steps are found to be in compliance with Section 106 of the NHPA and NEPA. This will provide the requisite "hard look" under NEPA you mention.

Comment 150-30b: First, the DFPA is roughly 233,542 acres, but only 5% of the acreage has been surveyed for cultural resources. There simply can be no adequate description of the affect cultural environment if 95% of it has not been surveyed.

Response: Please refer to our response to comments 3a and 3b. In addition, please refer to our response to comment 30a. Furthermore, many cultural resource sites have no surface manifestation, therefore even if a higher percentage of the area had been inventoried, there would be no way to know what existed subsurface. Finally, information concerning the cultural chronology and assumptions about resources which might be found in the project area have come from all over southern Wyoming and northern Colorado. While only a small portion of the study area has been subjected to Class III inventory, reasonable assumptions about the archaeological materials which could be found in the area can be made.

Comment 150-30c: Second, even if the cultural resources had been properly surveyed, the specific locations where surface disturbance will occur under the Proposed Action are unidentified. Because both the cultural resources and the location of the impacts remains so speculative, the DEIS requires more study and ultimately more specificity.

Response: Please refer to our response to comments 3a and 3b. In addition, please refer to our response to comment 30a.

Comment 150-30d: First, BLM has identified 900 historic or prehistoric sites, yet over half of them (56%) have not been evaluated for eligibility for nomination to the National Register of Historic Places (NRHP).

Response: Evaluation of eligibility for the NRHP occurs when it is determined that a cultural resource site is found to be within the APE of a proposed project. Evaluating the eligibility of historic sites found under previous projects in not within the scope of the DFEIS. If NRHP eligible sites, are encountered in proposed disturbance areas, they will be subject to the cultural mitigations detailed in Chapter 2, pg. 2-40 under "Cultural Resources" and the Cultural Resources Appendix, thus no adverse impacts would be expected.

Comment 150-30e: Given the special potential of the area to reveal additional and significant cultural resources, the DEIS fails to adequately assess the environmental consequence that the Proposed Action would have on these currently unknown resources.

Response: Please refer to our responses to comments 3a, 3b, and 30a. We agree that the discussion of impacts is not sufficient to adequately examine the impacts development may have on cultural resources. The following language has been included in the FEIS.

> Under the proposed action it is anticipated that 385 oil and gas wells would be drilled (592 for the Alternative A), disturbing about 2,029 acres of land (including all related facilities and pipelines) (3,193 acres for Alternative A). Standard inventory and recordation procedures conducted in conjunction with actions would protect most cultural resources from significant damage and would increase the database of known cultural properties.
>
> Construction activities resulting from minerals actions that disturb the ground surface and subsurface would have the potential to directly impact cultural resources not identified prior to the activity. Unanticipated subsurface discoveries (cultural resources found during and not prior to ground disturbing activities) would potentially occur from well location, road, and pipeline construction in culturally sensitive areas. Impacts to cultural resources identified in a discovery situation are greater than impacts to resources that were previously identified (and thereby avoided or subjected to mitigation

> measures) because damage to discovered sites occurs prior to their recordation and evaluation, thereby complicating mitigation procedures. Unanticipated discoveries result in the loss of some or occasionally all of the cultural resource involved. However, mitigation of impacts to discoveries is often accomplished through data recovery excavations that increase our understanding of prehistory.
>
> Areas within ¼ mile of cultural resources eligible to the NRHP under Criteria A, B, or C would be subject to avoidance for all ground disturbing activities. This will ensure the protection of those sites from activities that may compromise the values for which they are eligible.
>
> The visual setting (viewshed) of cultural resources eligible to the NRHP under Criteria A, B, or C would be managed to mitigate adverse visual impacts to a distance of two miles or the visual horizon, for actions which do not exceed 20 feet in height. Development projects that are greater than 20 feet in height would be evaluated on a case-by-case basis to determine the visual impacts greater than two miles.

This will ensure the protection of those sites from activities that may compromise the values for which they are eligible.

Comment 150-30f: Second, BLM's required discussion of direct and indirect effects on the known cultural resources is inadequate and there is no mention of cumulative impacts.

Response: BLM believes additional text in Chapter 4 in the FEIS, plus the added Cultural Appendix (B), coupled with the data in the DEIS will satisfy any concerns. Cumulative impacts are addressed in Chapter 5, "Cumulative Impact Analysis" in section 5.3.11 "Cultural Resources".

Comment 150-30g: Similarly, none of the alternatives give proposed locations where actual development will occur. This combination of "unknowns" is deeply troubling. It is not possible to adequately assess the varied impacts, nor can the BLM take a "hard look" when so many basic questions remain unanswered.

Response: Please refer to our responses to comments 3a, 3b, and 30a.

Comment 150-30h: An example of BLM's failure to analyze indirect and cumulative impacts associated with the Proposed Action is the manner in which surface disturbance is presented and indeed, downplayed.

Response: This argument seems to argue that there are "edge" effects upon cultural resources that exceed the effects on cultural resources from disturbance in general. BLM has added language in the FEIS that analyzes this in more detail.

Comment 150-30i: BLM briefly mentions unauthorized surface collecting of artifacts as an indirect impact, but again, even if BLM has attempted a more thorough analysis it still would have been ineffective because BLM has no knowledge of the true extent of the existing surface artifacts and does not know precisely where development will occur. The DEIS also fails to consider the effects of increased ORV use and human presence in the DFPA stemming from the new road building activities.

Response: Please refer to our responses to comments 3a, 3b, and 30a.

Comment 150-30j: In sum, NEPA calls for BLM to make a "reasonable, good faith, objective presentation of the topics" (citations). BLM has failed to do so.

Response: Please refer to our responses to comments 3a, 3b, and 30a.

Comment 150-30k: BLM is also responsible for looking at ways to lessen the impacts of the Proposed Action on the cultural resources by establishing a full range of reasonable alternatives. 40 CFR 1502.14. Each of the three alternatives (including the no action alternative) allows for increased oil and gas development in the DFPA.

Response: Please refer to our responses to comments 5a and 5b.

Comment 150-30l: To the contrary, none of the alternatives even begin to specifically analyze these impacts to the cultural resource; nor does BLM's reliance on future actions ("procedures... will be used... in arriving at determinations regarding the need and type of mitigation required") satisfy BLM's requirements under NEPA to "rigorously explore and objectively evaluate all reasonable alternatives."

Response: Please refer to our responses to comments 3a, 3b, and 30a.

Comment 150-30m: Next, BLM's mitigation program does not sufficiently guarantee that the cultural resources in the DFPA will be preserved.

Response: The BLM believes that the mitigation measures proposed are adequate and that no additional mitigations are necessary (see page 4-100, "Additional Mitigation Measures").

Comment 150-30n: Mitigation can play an important role by reducing the impacts to the cultural resource and it should be given a more thorough treatment in the DEIS. Unfortunately BLM's mitigation plan is essentially a non-plan, or at best a promise to make a plan in the future.

Response: The BLM agrees with the first sentence of this comment. Cultural resource mitigation would be formulated on a case-by-case basis as warranted based on the cultural resource and the specific type of undertaking. The standard mitigation measures outlined in Appendix B of the FEIS encompass the range of possibilities the BLM will use to ensure cultural properties are not adversely impacted.

Comment 150-30o: In sum, BLM's mitigation "plan" is an ad hoc, piecemeal treatment of the effects to the cultural resources, not a well thought-out, comprehensive strategy that would allow the BLM to take the legally required "hard look"

Response: Please refer to our response to comment 30a and 30n.

Comment 150-30p: Of particular concern is the lack of any specific mitigation regarding the eligible historic trails, most notably the Cherokee Trail. The identified .25 mile buffer zone might protect the trails themselves, but may be insufficient to protect their historic and aesthetic viewshed and character, especially because the routes of the trails have not been "verified in the field."

Response: The BLM has added historic trail mitigations to the FEIS. See Cultural Appendix B. The identified 0.25 mile spacing standard is consistent with the current RMP, as found at page 49 of the Great Divide Resource Area Record of Decision and Approved Resource Management Plan.

Comment 150-30q: The BLM has also not provided analysis of impacts to the viewshed of the Cherokee Trail, and which could occur beyond the ¼ mile buffer but still inside the visual horizon of the Trail, and which could detract from the setting on the Cherokee Trail, an important component of its historical legacy.

Response: The BLM has included additional analysis to impacts to the Cherokee Trail from DFPA project development, and disclosure of such in the FEIS.

Comment 150-30r: This is the minimal mitigation required to protect historic trails, and we recommend even stronger protections. The BLM should require a 5-mile no-surface-disturbance buffer around the Cherokee Trail, with COAs attached automatically as a condition of APD approval, and exceptions granted only in cases where surface impacts would be rendered completely invisible to visitors on the Cherokee Trail by intervening topography and/or vegetation.

Response: As many areas surrounding the Cherokee Trail have been leased for mineral exploration at this time, there is no way to legally preclude development within five miles of the Cherokee Trail. Surface disturbances within two miles of the Cherokee Trail are assessed to determine what visual impacts they may have on the trail. In areas where development has already occurred, the viewshed has been previously compromised and there is no reason to preclude surface disturbing activities in these areas. Extensive visibility analyses have determined that the two mile viewshed is a reasonable distance to assess visual impacts to historic trails from oil and gas development activities. Surface disturbing activities located within two miles of the historic trail would have special mitigation requirements before being permitted to ensure the least amount of visual intrusion.

Comment 150-30s: An archeological survey of the area is needed to delineate the stretches of the Outlaw Trail that (sic) run through or near DFPA in order to determine the impacts of the proposed natural gas project.

Response: No evidence has been located pertaining to the "Outlaw Trail". If any evidence of the Outlaw Trail were located during Class III inventories relating to specific projects, the site would be evaluated as to eligibility for the NRHP. If the property were found to be not eligible for listing in the NRHP, no further work would be conducted in association with the site. If the site were found to be eligible for listing in the NRHP, the BLM would ensure protection and mitigation measures were conducted to protect the historic property.

Comment 150-30t: BLM also fails to discuss concrete monitoring plans, preferring instead, to rely on the Operators to monitor themselves and to report to BLM if cultural resources are discovered in the process of development.

Response: The BLM has added text to the FEIS that details how cultural resource monitoring is accomplished during ground disturbing activities. In circumstances where the BLM believes there is potential to uncover subsurface cultural resources during construction activities, a BLM permitted archaeologist will be on hand to assess the cultural resource and notify the BLM if and when a cultural resource issue is found. Work would not proceed until a

Notice to Proceed is issued by the BLM following resolution of these issues. The BLM has the discretion to require an archaeological monitor on specific projects based upon known cultural resources in the area and soil deposition in the project area.

Comment 150-30u: The DEIS does not address the very real possibility that industry might choose not disclose the discovery of cultural resources to the BLM. In its analysis of the impacts to cultural resources, BLM is required to assess the possibility that industry might not cooperate voluntarily.

Response: In those cases where BLM requires monitoring of ground disturbing operations, the Operator is required to retain a BLM approved independent archeological staff to perform those duties. Please refer in addition to our response to comment 30t.

Comment 150-30v: A more comprehensive treatment of mitigation and monitoring is necessary in order to "insure a fully informed and well-considered decision."

Response: The BLM agrees with this assertion.

Comment 150-31a: BLM's inadequate analysis of the cultural resource in the DFPA blatantly disregards its responsibilities under NHPA.

Response: The BLM believes that, given the additional mitigations and effects analysis it has included in the FEIS, along with the current analysis and disclosure as it stands, its responsibilities under NHPA are fully upheld.

Comment 150-31b: As of June 20, 2003, some three months after the publication of the DEIS, the Wyoming SHPO has not received a request to comment (phone conversation the Fred Chapman, Archeologist/Native American Liaison, WY SHPO, 6/20/03). The fact that the SHPO was not consulted prior to the publication of the DEIS (and has still not been contacted months after its publication) contravenes both the letter and spirit of the regulations. Id. BLM should make consultation regarding the irreplaceable cultural resources found in the DFPA an immediate priority.

Response: SHPO was consulted with by BLM in this matter as appropriate under existing agreements.

Comment 150-31c: Again, the use and tense of the word "would" denotes a future, hypothetical consultation- not an actual, present consult as required by the regulations. Timing is crucial in order to ensure that tribes and organizations have a "reasonable opportunity to identify...concerns about historic properties...advise on the identification and evaluation of historic properties....articulate ...views on the undertaking's effects on such properties, and participate in the resolution of adverse effects. For this reason, "[c]onsultation should commence early in the planning process, in order to identify and discuss relevant preservation issues and resolve concerns..."

Response: See our response to comment 31d. If cultural resources were encountered during a Class III cultural resource inventory that may require Native American Consultation, site-specific consultation would be initiated. Pursuant to the Protocol Agreement between the Wyoming SHPO and the Wyoming BLM, consultation occurs on every surface disturbing activity prior to being permitted to commence.

Comment 150-31d: It appears from the text of the DEIS that even in this late stage, BLM has chosen not to make the effort to contact the appropriate Native American groups.

Response: During the Scoping phase of the EIS process, letters were sent to the Shoshone Tribal Cultural Center, the Eastern Shoshone Tribal Council, the Comanche Business Council, the Northern Arapaho Tribal Business Council, the Fort Hall Business Council, the Northern and Southern Ute Tribes and the Medicine Wheel Coalition, but none of the Tribes responded.

Comment 150-31e: While it is not clear why BLM failed to mention those correspondences in its DEIS (sic) courts have made it known that even when an agency attempts to contact interested Native American groups, "a mere request for information is not necessarily sufficient to constitute the reasonable effort" section 106 requires.

Response: Scoping notification is not a "mere request for information." The Scoping notification requests comments, issues, and concerns from potentially interested parties, puts potentially interested parties on notice that proposals are being evaluated for a specific area, and provides them with direct route to have their concerns heard. Additional affirmative attempts to elicit concerns/information did not yield any interest from the tribes.

Comment 150-31f: The discrepancy in lists between the BLM and SHPO (with the Sioux and Northern Cheyenne being recommended by the SHPO but not contacted) illustrates the mistakes that occur when BLM does not follow proper procedure. Had BLM consulted with the SHPO early in its decision making process, these groups would have been contacted. Even if all groups had been sent letters, BLM incorrectly assumes that "contact" is equivalent to "consultation". A letter should be just the first step n BLM's "reasonable and good faith effort" to attempt to include these groups in true consultation.

Response: The discrepancy between the lists provided by the SHPO and the BLM is that BLM determines who will be contacted based upon historic documentation of Native American tribal lands. There is no evidence to support the Sioux or the Northern Cheyenne traditionally occupied the area of concern; therefore they were not contacted. The BLM agrees that a letter should be just the first step in attempting to include Native American groups in consultation. However, the letters sent to each tribe specifically outlined the objectives of the DEIS and asked if they had concerns to contact the BLM archeologist. In addition, when any individual project associated with the Desolation Flats area is proposed that may impact a potential TCP, Native American groups will be contacted and consulted with for the individual project.

Comment 150-31g: The DEIS has additional problems under NHPA. Pursuant to 110 of NHPA, BLM must "establish...a preservation program for the identification, evaluation and nomination to the National Register of Historic Places [NRHP]..." 16 U.S.C. 470-2(a). BLM has identified 900 sites within DFPA; however, 56% of these sites remain unevaluated. DEIS at 3-18. The 900 sites represent an inventory of only 5% of the total project area.

Response: Section 110 of the NHPA states that each Federal agency shall establish...a program for the identification, evaluation, and nomination to the National Register of Historic Places, and protection of historic properties. This section of the statute was not meant to be applied to individual Federal agency actions nor individual Federal agency offices, but to the Federal agency as a whole. The BLM manages over 260 million acres in 11 western states plus Alaska. Through its preservation program, which was fully established in 1974 and is laid out in the 8100 BLM Manual Series, the BLM provides policy and guidance for the proactive identification, evaluation, and nomination of eligible properties to the National Register of

Historic Places apart from the procedures required by Section 106 of the NHPA. Section 110 establishes a goal for Federal agencies in the management of historic properties, but does not establish time frames or dates for the completion of the identification and evaluation process on public lands. The BLM continues to progress in its Section 110 goals.

Comment 150-31h: It is unfortunate that given the myriad of undiscovered cultural resource undoubtedly to be found in the DFPA, BLM has chosen to commit most of the DFPA to oil and gas development before it has made a good faith effort to adequately assess, let alone avoid or mitigate the adverse effects under 36 CFR 800.5 if the proper baseline information has not been collected.

Response: The DEIS for Desolation Flats does not reflect a decision to commit DFPA to oil and gas development, it analyzes the effects of implementing the Proposed Action and its alternatives. Chapter 3 of the DEIS discloses much of what is currently known regarding the cultural resources of the DFPA. Chapter 4 analyzes the effects to the environment, including cultural resources in detail. Chapter 5 discloses the cumulative effects that are expected to occur. As site specific proposals come forward, tiered to the Desolation Flats ROD, they will be reviewed in the field with site specific surveys of disturbance areas, and any cultural issues or problems identified and mitigated in advance. As projects are implemented, the BLM will require, when appropriate, on site archeology staff to monitor operations and detect and protect cultural resources when they are found.

Comment 150-31i: Even though the regulations allow for some phased identification and evaluation for large land areas, the DEIS does not identify a responsible way this will occur. See 36 CFR 800.4(b)(2). BLM simply states (again in its "future-hypothetical tense) that [m]easures would be taken to mitigate or minimize adverse effects to historic properties included in or eligible for the [NHRP]." DEIS at 4-97, This is a grossly irresponsible handling of the irreplaceable cultural resources Congress intended to safeguard by the passage of the NHPA.

Response: The BLM believes that when describing future actions, future tense is appropriate. Please refer to our responses to comments 31h, 30a, and 30d.

Comment 150-31j: At the very least, BLM should act now to ensure that a proper evaluation is accomplished for the over 500 known sites currently unevaluated and implement a responsible identification plan for unknown sites consistent with the policy and mandates of NHPA.

Response: The BLM is acting now through preparation of the DEIS and FEIS followed by a Record of Decision for the Desolation Flats project. Please refer to our responses to comments 31h, 31a, and 31d.

Comment 150-32a: Instead, as evidenced by the DEIS, BLM has chosen to blatantly disregard its responsibilities under these orders.

Response: Please refer to our responses to comments 31h, 30a, and 30d.

Comment 150-32b: Executive Order 11593 states that Federal Agencies shall "administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations....[and] initiate measures necessary to direct their policies, plans and programs in such a way that federally owned sites, structures, and objects of historical, architectural or archeological significance are preserved , restored, and maintained for the inspiration and benefit of the people...."Executive Order 11592, 1, May 13, 1971. BLM's adherence to this mandate is nowhere reflected in the DEIS.

Response: Please refer to our response to comment 31g.

Comment 150-32c: Indeed, BLM's choice to increase oil and gas development through the Proposed Action is a choice not to preserve, restore, and maintain the cultural resources of the area, but to breach its duty to act as a steward and trustee of these important sites and artifacts.

Response: Please refer to our responses to comments 31h, 30a, and 30d.

Comment 150-32d: This is particularly true given BLM's failure to assess the effects of development on the cultural resources by providing inadequate baseline data, providing no sufficient mitigation or monitoring plans for the known and unknown resources and ignoring it consultation and inventory duties under NHPA.

Response: Please refer to our responses to comments 31h, 30a, and 30d.

Comment 150-32e: BLM's failure to make a timely and reasonable effort to contact the appropriate Native American tribes disregards Executive Order 13007.

Response: Please refer to our responses to comments 31d, 31e, 31h, 30a, and 30d.

Comment 150-32f: The DEIS makes no mention of BLM's efforts to consult with Native American tribes who may possess some affinity with the area. Not only is this a violation of the NHPA, but this inaction also ignores the policy clearly stated in Executive Order 13007. see 36 C.F.R. 800.2 (c)(2)(ii).

Response: Please refer to our response on 31c, 31d, 31e, and 31f. Executive Order 13007 states that Federal agencies

> "(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religion practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies shall maintain and confidentiality of sacred sites."

The Order goes on to state that Federal agencies must implement procedures and provide Native American groups

> "reasonable notice of proposed actions or land management policies that may restrict future access to or ceremonial use of, or adversely affect the physical integrity of, sacred sites."

The DEIS does not plan to restrict access to any sacred site, and should any action in the future relating to the proposed development potential cause restricted access to a sacred site, Native American groups will be consulted with at that time.

Comment 150-32g: The surface disturbing activities inherent in oil and gas development certainly threaten the physical integrity of potentially sacred sites; and as discussed above, BLM's mitigation and monitoring plan is insufficient to address this harm (particularly since 95% of the DFPA remains unsurveyed.)

Response: Please refer to our responses to comments 31h, 30a, and 30d.

Comment 150-32h: BLM admits that the DFPA has a "high archeological sensitivity"; however, its treatment of the cultural resources in no way contributes to their long-term preservation.

Response: Please refer to our responses to comments 31h, 30a, and 30d. The BLM intends for its treatment of cultural resources, while fulfilling it's obligations under FLPMA for multiple resource management, to avoid and minimize adverse impacts to cultural resources.

Comment 150-32i: BLM has also not actively sought Native American partnerships, as it has not even begun to meet the basic requisites for Native American consultation. See 36 C.F.R. 800 ©(2)(ii)

Response: Please refer to our responses to comments 31d and 31e.

Comment 150-33a: BLM's support of the Proposed Action without adequate assessment, evaluation and planning for mitigating and monitoring of the affects to the cultural resources violates its multiple use management policy.

Response: Please refer to our responses to comments 31h, 30a, and 30d.

Comment 150-33b: Undoubtedly, with so little of the DFPA even surveyed, the choice to allow such extensive development in a relatively untouched landscape will have lasting detrimental effect to the quality cultural environment. In addition, by failing to initially survey to avoid adverse impacts to cultural resources and to study and adopt a meaningful mitigation plan, BLM has violated FLPMA's proscription against "unnecessary or undue degradation of the lands. 43 U.S.C. 1732(b).

Response: Please refer to our responses to comments 31h, 30a, and 30d.

Subheading XXXI: Water Quality

Comment 150-34a: We are concerned that the Proposed Action will result in serious water quality problems. Water produced as a byproduct of natural gas production is likely to be highly toxic. The BLM notes, "Limited data from the deeper parts of this system indicate TDS concentrations in excess of 10,000 mg/l, which exceeds Wyoming DEQ standards for livestock." DFEIS at 3-45. Thus, produced water from gas development in the DFPA would be expected to be of very low quality and high toxicity.

Response: On page 3-45, earlier in the same paragraph you quoted from, the DEIS states:

> "The quality of water in the various geologic formations underlying the Washakie Basin range from poor to good."

It is possible that produced water, if any, could have poor water quality. In Chapter 4, page 4-44 the DEIS states:

> "Methods used for the disposal of produced water (water produced in association with the gas which is separated out at the well location) would vary but would generally be accomplished by either (1) disposal in an underground injection well, (2) surface discharge or (3) surface evaporation in lined or unlined ponds. The operators would obtain the permit(s) necessary (i.e. NPDES) for the selected method. Depending on timing of availability, quantity and quality of produced water; some of the produced water could be used in well drilling and completion, and pipeline construction and hydrostatic testing."

Any water discharge to the surface would have to be approved by the Wyoming Department of Environmental Quality under a National Pollutant Discharge Elimination System (NPDES) permit. In order to issue the permit, the DEQ must determine the proposed action will not violate the Clean Water Act and any other applicable laws, rules and regulation.

Comment 150-34b: Since the lining of reserve pits is an optional measure rather than an ironclad standard, we can only assume that significant amounts of this toxic water will in fact leak from reserve pits to enter shallow subsurface aquifers and/or intermittent stream channels, thereby polluting the waterways downstream. And yet the BLM has presented no analysis of the impacts of such leakage. To remedy this problem, the BLM should require that reserve pits be lined in all cases, or, better yet, require that pitless drilling techniques be used so that produced effluent is reinjected as a matter of course.

Response: Operators may propose to use a liner, or not (page 2-36). Requiring reserve pit liners is a BLM decision, it is not optional for the operator once it is required. Reserve pits are primarily utilized to store fluids, not to dispose of them. When reserve pit soil conditions are permeable enough that excessive fluid loss is anticipated, they are lined to prevent that loss. On page 2-36, third paragraph down, the DEIS describes a mitigation measure for reserve pits. In Chapter 4, page 4-43 the DEIS states in part:

> "Thus, adverse impacts (of drilling fluid leakage) from reserve pits would likely not occur."

Pitless drilling techniques are not needed in those conditions.

Comment 150-34c: What are the impacts of the use of magnesium chloride on water quality in the downstream waterways that are home to sensitive or Endangered fishes, such a Muddy Creek and Little Snake River?

Response: Additional analysis has been included in Chapter 4 of the FEIS detailing the effects of magnesium chloride, if any, under the Proposed Action and Alternative A. In Chapter 4, 4-47 the DEIS states that impacts from access roads could be kept to non-significant levels with application of the mitigation measures in Chapter 2 and the control measures recommended in Appendix C.

Comment 150-34d: Why is there no analysis of the impacts of aquifer cross-contamination through improperly cased production or re-injection wells? What are the odds of such an accident? The BLM must present an analysis of this eventuality and prepare a mitigation plan should it occur.

Response: The BLM handbook, Chapter V (2)(a)(3) states in part:

> "The analysis of impacts should be based on the premise that all standard operating procedures and other standard Bureau-wide requirements will be followed in implementing the proposed action and alternatives unless changes in such practices are specifically being addressed in the analysis or considered in an alternative"

Mitigations are standard Bureau-wide requirements, and will always be used when appropriate. The odds of cross aquifer contamination are higher under the proposed action and alternative A, but not quantifiable. The BLM no longer analyzes for the "worst case" scenario, relying instead on analyzing reasonably foreseeable developments. With use of the mitigations detailed in the DEIS, cross aquifer contamination is not reasonably foreseeable. If an accident should occur, actions would be proposed and assessed under NEPA by BLM to deal with the problem as it exists.

Comment 150-34e: The BLM's failure to plan the locations of wells, roads, and pipelines once again renders an analysis of impacts impossible, this time for water quality.

Response: The DEIS, in Chapter 4, page 4-49 states that specific project impacts on waters of the U.S. cannot be accurately assessed since facility locations have not been identified. Please refer to our responses to comments 3a and 3b.

Comment 150-34f: This is a candid admission on the part of the BLM that because the agency does not know precisely where (and how close to waterways, and on what types of soils) surface disturbances will occur, it cannot assess the magnitude of impacts to surface waters. This gross failure is an egregious violation of NEPA, which requires that the agency take a hard look at project impacts, a hard look that depends on the site specific location of construction activities and production facilities.

Response: Please refer to our responses to comments 3a and 3b. The BLM feels the DEIS fully complies with the requirements of NEPA.

Subheading XXXII: Soils

Comment 150-35a: Due to the sensitivity of this landscape type, badlands must be avoided at all costs. And yet the Acceptable Plan Criteria for Transportation Planning do not include provisions for prohibiting or even avoiding construction activities in badland areas. See DFEIS at A-1. The BLM must present the spatial distribution of badlands topography in the FEIS, and this deficiency in mitigation measures must be rectified.

Response: In Chapter 2, page 2-33 "Soils" mitigations, the DEIS states:

> "The operators would minimize construction activities in area of steep slopes and other sensitive soils, and apply special slope stabilizing structures if construction cannot be avoided in these areas."

Chapter 4 of the DEIS, page 4-35 – 4-36 states in part:

> "In order to preclude significant impacts, roads, drill/well sites, and pipelines should not be placed in areas with steep slopes greater than 25 per cent and in areas with badland soils. Therefore, significant impacts are not expected to occur with implementation of the Proposed Action."

The BLM does not see the need for, nor does it plan to present a spatial representation of badlands topography. Maps and other supporting data will be generated as necessary for these considerations when and if they arise under site specific proposals that come forward from the operators tiered to the Desolation Flats ROD.

Comment 150-35b: Revegetation and reclamation is likely to be a source of long-term problems if this project is allowed to go forward.

Response: The DEIS, in Chapter 4, "Soils", page 4-34, (2'nd full paragraph) states in part:

> "Therefore, the overall potential for successfully stabilizing disturbed soils is poor to fair. Field reconnaissance and review of existing reclamation in the project area suggests that successful reclamation can be attained with aggressive reclamation measures and follow-up monitoring and remediation."

Additional details on reclamation can be found in Appendix C.

Comment 150-35c: The BLM calls for "special efforts to avoid these areas," but fails to identify what these special measures entail.

Response: "Special measures" are detailed in Chapter 2, "Project-wide Mitigation Measures" in the soils mitigation section page 2-33 and 2-34.

Comment 150-35d: The mitigation requirement in the DFEIS are insufficient to prevent widespread damage to soils and long-term revegetation problems.

Response: Please refer to our responses to Comments 35b and 35a.

Comment 150-35e: What sand, clay, or salt content is considered "excessive" for the purposes of this project? Numerical standards are needed, because if these criteria are left to the judgment of the Operators, it is likely that sensitive soils will be given short shrift.

Response: The determination of which soils have excessive sand, clay, or salt content will be made by the BLM in site specific environmental analysis tiered to the DF ROD.

Comment 150-35f: In addition, what will happen when areas of excessive sand, clay, or wetness are too large to be mitigated by final siting choices?

Response: The BLM will assess the site specific conditions in the area, the need for the proposed action while using the fully range of mitigations and siting and development alternatives at hand. If there is no way to implement the proposal without significant impacts, the preparation of an EIS may be required, or the proposal denied as made. There are a very broad range of results and options that could occur or arise depending on the actual conditions in the field. Answers turn on the specifics in this case.

Comment 150-35g: In order to mitigate properly for such large-scale occurrences of sensitive soils, these should be mapped and presented in the Final EIS as area where surface disturbance will not be permitted.

Response: Areas where surface disturbance will not be permitted will not be finitely determined until site specific disturbance proposals (APDs) are received and the conditions presented in the field reviewed, assessed, and mitigations evaluated for effectiveness. These proposals, tiered to the DF ROD will occur after preparation of the DF FEIS. Please refer to our responses to comments 3a and 3b. Also please refer to figures 3-8 and Figure 3-1.

Comment 150-35h: Avoidance measures for steep and/or erodible slopes in the DFEIS are insufficient. The mitigation is not watertight........... But these provisions do not outright proscribe construction.

Response: The decision to impose mitigation measures is the BLM's, not the operators. While these provisions do not necessarily outright proscribe approval of construction proposals, as you assert, under NEPA when adoption or approval of an action that raises significant impacts occurs, it must be assessed through the environmental impact statement process, necessitating an EIS on the proposal.

Comment 150-35i: First of all, the assertion that sensitive soils "cannot be totally avoided" is absolutely false; the BLM has the unequivocal authority to require as a Condition of Approval on APDs to require that surface disturbances not occur on these soils. Secondly, "particular attention" needs to be defined in terms of ironclad standards, not just vague and vacuous promises with no guarantees.

Response: You have interpreted our statement out of context. The BLM does have authority to require Conditions of Approval as it deems necessary. The BLM's statement was intended to disclose that implementation of the proposed action and alternative A cannot totally avoid sensitive soils, possibly with adverse effects that BLM wishes to avoid. It is stated so that the decision maker in this matter can fully understand the importance and effects his decision may have, coupled with all the information available from the EIS necessary to make the best decision possible. In this case, "particular attention" attempts to describe the effort BLM will use in a hypothetical situation where the answer or action changes with the specifics of the situation.

Comment 150-35j: Certainly, with the availability a capabilities of directional drilling, all sensitive soils in the project area should be avoidable by moving drilling facilities away from them.
Response: The BLM cannot agree with your assertion. With the complexities found in the local geology, with the difficulty and cost associated with directional drilling, with the extent of sensitive soils and other resource concerns, there is no guarantee that directional drilling can always avoid such impacts. When those conditions exist where directional drilling is a viable alternative, and other site specific variables and unknowns allow for effective directional drilling, BLM believes this alternative could be utilized. The BLM further anticipates those conditions will not occur as often as it wishes they would.

Comment 150-35k: With soils, just as with wildlife, the extent of impacts cannot be determined without knowing exactly where the wells, roads, and pipelines are going to be constructed.

Response: The BLM agrees with this assertion. Please refer to our response to comments 3a and 3b for further elaboration.

Comment 150-35l: Thus, the BLM cannot offer any analysis on effects to soils and erosion beyond gross estimates, a fact that violates the NEPA requirements to make a thorough evaluation of impacts.

Response: Please refer to our response to comments 3a and 3b for further elaboration.

Comment 150-35m: The DEIS also presents inadequate standards with regard to conserving and replacing topsoil during construction and reclamation activities.

Response: Chapter 2, page 2-34 details that topsoil mitigations for wellpads, including conservation and replacement of topsoil with reclamation. On page 2-9 the DEIS states:

> "Re-spreading of topsoil and windrowed vegetation to the sideslopes of the newly constructed access roads and revegetation would begin the first appropriate season following the well going on production. Reclamation measures would be implemented the first season following the well going on production. The access road to an unproductive well site would be reclaimed upon abandonment of the well using stockpiled topsoil and a seed mixture contained in the approved APD/ROW."

Further mitigation is detailed on page 2-33 through 2-34. The DEIS, in Chapter 4, "Soils", page 4-34, (2'nd full paragraph) states in part:

> "Therefore, the overall potential for successfully stabilizing disturbed soils is poor to fair. Field reconnaissance and review of existing reclamation in the project area suggests that successful reclamation can be attained with aggressive reclamation measures and follow-up monitoring and remediation."

Comment 150-35n: It is hard to imagine a case when topsoil salvage and replacement would not be possible, and thus the burden is upon the BLM to elucidate the circumstances under which topsoil replacement would not be mandated, and if there are no such cases, the language in the FEIS should be amended to a non-discretionary requirement.

Response: Please refer to our response to comment 35m.

Subheading XXXIII: Biological Soil Crusts

Comment 150-36a: What measures will the BLM require to promote the re-establishment of biological soil crusts following disturbance and reclamation?

Response: ext has been added to Chapters 3 and 4 that detail the presence of biological soil crusts and the effects that the project may have on them (See Errata Section 2).

Comment 150-36b: Are there mitigation measures that will enhance the possibility of biological soil crust disturbance following recovery?

Response: Refer to our response to Comment 150-36a.

Comment 150-36c: What is the timeframe in which biological soil crusts can be expected to recover following abandonment and reclamation of roads and well sites?

Response: Refer to our response to Comment 150-36a.

Subheading XXXIV: Reclamation

Comment 150-37a: We are concerned that many of the scars that occur under the proposed action will take decades to heal even after reclamation efforts, and that some of these impacts may never disappear. According to the BLM, "Reclamation is generally poor to moderate within the DFPA, with some limited areas of good potential." DFEIS at 3-28. The BLM assumes "a reasonable success rate of 60% for reclamation..." DFEIS at 4-35. This statement suggest that 40% of the disturbed areas will never be successfully reclaimed.

Response: The sentence after the one you cite states:

> "Field reconnaissance and review of existing reclamation in the project area suggests that successful reclamation can be attained with aggressive reclamation measures and follow-up monitoring and remediation."

Subheading XXXV: Directional Drilling

Comment 150-38a: In the DEIS, the BLM has failed to give detailed consideration and analysis to a directional drilling alternative.

Response: Please refer to our responses to comments 6a, 25o, and 35j.

Comment 150-38b: These benefits need to be estimated and included and directional drilling should be re-considered with more complete information.

Response: Directional drilling will be considered when there is need for this action, such as the need to avoid sensitive habitats or soils, and when it is feasible. In addition, please refer to our responses to comments 6a, 25o, and 35j.

Comment 150-38c: We have attached a report, "Drilling Smarter: Using Directional Drilling to Reduce Oil and Gas Impacts in the Intermountain West", to provide a detailed technical basis, founded on the petroleum engineering literature produced largely by the oil and gas industry itself, which concludes the directional drilling is feasible and economical in virtually any geologic setting, including the setting presented by the DFPA. We incorporate this report and its conclusions in full into these comments, and expect the BLM to respond to it as the agency would to any other public comment in the NEPA process.

Response: For direction drilling, please refer to our responses to comments 6a, 25o, and 35j. Additional insight into the advantages and disadvantages of directional drilling can be found on the internet at:
http://www.wy.blm.gov/nepa/rsfodocs/vermbasin/VBPA-well-architecture-letter.pdf.
BLM reviewed the report you have incorporated into your comments, and was unable to find any comments specific to the Desolation Flats DEIS, therefore no responses were generated.

Comment 150-38d: The DEIS also ignores the possibility of slant-hole completions, which also do not experience difficulties from the standpoint of binding up the drilling string at bends in the wellbore.

Response: In the Glossary, on page GL-3, the DEIS defines directional drilling as "The intentional deviation of a wellbore from vertical to reach subsurface areas of to one side from the drilling site." When discussing directional drilling, the BLM is also considering slant hole completions.

Comment 150-38e: The BLM's analysis of the environmental advantages of directional drilling is flawed. The BLM makes an unsupported assertion:

> "Multiple wells per pad do not translate into a direct reduction of surface disturbance,"

due to the increased number of condensate tanks and increased dehydrator and separator size.

Response: The BLM's intent, in making that statement, was to say that an individual wellpad supporting a number of directional wells is usually larger that the wellpad for a single vertical well, and that, for example, putting two wells on one pad does not necessarily result in half the disturbance from two wells. This assertion is supported by experience in the Wamsutter Field.

Comment 150-38f: If the BLM is to live up to its multiple use mandate, it must require Operators to spend the extra money to achieve substantial reductions in environmental impacts as a cost of doing business on multiple-use public lands.

Response: In deciding which mitigations and alternatives are necessary to avoid or reduce environmental impacts in meeting its multiple use mandate under FLPMA, cost may a consideration, but is not a controlling factor in those decisions.

Comment 150-38g: Why would the BLM artificially constrain direction drilling in the DFPA based upon drilling rigs used in the Wamsutter Field?

Response: In the paragraph before the statement you cite, page 2-44, the DEIS states:

> "Current technologies, along with large reserves, make it possible in some part of the world to drill to a bottom hole location several miles from the surface location. With the right drilling rig, drill pipe, casing programs, mud systems, and directional steering equipment this can be achieved in other areas. However, in the Wamsutter Field, and natural gas producing areas near Wamsutter Field (including the DFPA), there are mechanical limits associated with the standard drilling equipment available."

The intent of the discussion is to disclose the known limits of standard technology utilized in the area. There are no limitations in the DEIS that restricts the use of new technologies, or newer, better, or bigger equipment than is standard in the area if an operator should care or need to make such a proposal. It is likely that when, or if, circumstances present themselves such that a drilling target cannot be drilled by conventional means the operators, using opportunity and ingenuity, may make an unconventional proposal. If such a case happens, the BLM will assess the proposal and make a decision based on the specifics of the case.

Comment 150-38h: The argument that directional drilling reduces gas production is a false one over the long term, and the argument that the public interest suffers when marginal plays go undeveloped during periods of glut is even more specious and unsupportable.

Response: The BLM was not making the assertions you allege. The intent of the statement was to point out that gas development activities are driven by market forces.

Comment 150-38i: The BLM must therefore analyze at least one alternative that mandates the use of directional drilling to cluster wells and reduce impacts as well as to avoid surface disturbance to sensitive landscapes (plover concentration area, big game crucial ranges, plover nesting concentration areas, prairie dog colonies, 2-mile buffers for sage grouse leks and 1-mile buffers for raptor nests), and should select this alternative for implementation in the Desolation Flats project.

Response: Please refer to our response to comment 6a.

Subheading XXXVI. Pitless Drilling.

Comment 150-39a: Due to its environmental advantage, pitless drilling should be mandated as a standard requirement for drilling operations under the Desolation Flats Project.

Response: Please refer to our response to comment 34b.

Comment 150-39b: All of these impacts are completely unnecessary in light of the availability of "pitless drilling" technology, which recycles drilling muds through the systems and does not require the deposition of toxic waste in surface reserve pits.

Response: Please refer to our response to comment 34b.

Comment 150-39c: Waters of this low quality and high TDS content, if sprayed into the air for evaporative purposes, would result in a rain of toxic salts and heavy metals on nearby soils which would likely sterilize the soils, kill off the vegetation, and ultimately drain off into Muddy Creek or the Little Snake River during heavy rainfalls. The BLM could avoid all of these impacts through requiring Operators to employ pitless drilling techniques.

Response: Please refer to our response to 34a.

Subheading XXXVII: Traffic

Comment 150-40: How will such speed limits be enforced? Is there any hope of compliance without a credible enforcement presence?

Response: In many cases road conditions limit speed to acceptable levels. BLM roads are designed to allow transportation of equipment, personnel and other materials safely, but are not designed for high speed operation. When excessive speed (or unsafe vehicle operation) are noted by BLM personnel, they can bring it to the attention of Operator for action. Based on routine observations in the field vehicle speed is generally appropriate. The BLM does not routinely post, not does it enforce speed limits on the public lands. The BLM has no authority to enforce speed limits on non-federal lands.

Subheading XXXVIII: Coal Bed Methane

Comment 150-41: The project description does not encompass the drilling of coalbed methane wells, and the BLM has not presented a detailed analysis of the special impacts of CBM development which are unique and quite different from the impacts of conventional gas development. We therefore conclude that CBM well will not be permitted under the DFEIS, as adequate NEPA analysis has not been performed in this document to support CBM exploration and development.

Response: The BLM disagrees with your assertion that natural gas produced from coal beds has special impacts which are unique and quite different from the impacts of conventional gas development. No proposals for coal bed natural gas development have been received to date in the Desolation Flats Project area.

Subheading XXXIX: Floodplains

Comment 150-42a: These floodplains must not be the site of construction or drilling activities in accordance with Executive Order 11990.

Response: When applicable, the BLM will require Proponents to operate in compliance with Executive Order 11990.

Comment 150-42b: This Executive Order is not discretionary, and thus the BLM should require that all surface disturbing activities comply with its provisions, without exception.

Response: Please refer to our response to comment 42a.

Subheading XL: Air Quality

Comment 150-43a: WOC did not endorse the air quality assessment protocol

Response: BLM acknowledges improper statements were inadvertently included in the DFEIS and has made efforts to correct the mistake.

Comment 150-43b: Teton and Washakie Wilderness Areas and Grand Teton NP are absent from the analyses.

Response: Refer to the response to Comment 146-2.

Comment 150-43c: The DFEIS fails to include all RFD emission sources.

Response: Refer to the response to Comment 146-2. The cumulative impacts section was updated with a qualitative discussion.

Comment 150-43d: The DFEIS fails to include emission sources located outside the study area.

Response: Practical limits must be applied for any analysis, and for this reason study area boundaries are defined. If emission sources outside of the study boundary were to be included, there would be no limit to the scope of the analysis. We refer the readers to the response to Comment 146-2.

Comment 150-43e: The BLM fails to ensure compliance with air pollution standards
1. Failure to conduct complete increment consumption analysis.
2. BLM may not rely on State regulatory programs to satisfy its independent obligations.

Response: The responsibility for PSD increment consumption analyses continues to be a State responsibility. Analysis shows the project will comply with air quality standards. BLM relies on the analysis in the document plus background monitoring to ensure compliance with air quality standards.

Comment 150-43f: A more through discussion of mitigation measures is required.

Response: Updated mitigation measures are provided in the revised document.

Comment 150-43g: The DEIS must recommend the adoption of emission controls assumed in the air quality analysis.

Response: Comment noted.

Comment 150-43h: Visibility impairment in Class I areas not prevented.

Response: Thank you for your comment.

Comment 150-43i: Acid rain impacts underestimated.

Response: Please see the response to Comment 146-2.

Comment 150-43j: Other air quality issues: Project success rate

Response: The Project Proponents provided the well success rate for the Proposed Action and each of the alternatives. We depend upon the proponent's expertise to predict probable outcomes.

Comment 150-43k: Other air quality issues: Compressor emissions

Response: The 35 hp per well estimate was based upon conventional gas fields. We acknowledge that higher compression rates may be required for shallow gas plays which typically have lower formation pressures. In an effort to provide a balanced analysis, the 35 hp estimate was applied to projects where actual data were lacking. The majority, if not all of these projects were conventional developments.

Comment 150-43l: Other air quality issues: RFD emissions.

Response: For oil and gas developments, SO2 emissions typically result from the combustion of diesel fuel, either by construction equipment, heavy duty vehicles, or drill rigs. SO2 emissions are generally a very small fraction of the total emission inventory and occur primarily during the construction and drilling phase of a project. Similarly, the majority of PM emissions are associated with the construction phase of a project and are therefore temporary in nature.

Comment 150-43m: Other air quality issues: Well production emissions

Response: The Project Proponents did not predict the need for well "blow-downs." Therefore, VOC emissions from this source were not considered.

Comment 150-43n: Other air quality issues: Fugitive Dust

Response: Wind erosion emissions were considered for the life of the project. We can appreciate the point of view that the applied emission factors may be out-dated, however AP-42 remains the industry standard for estimating wind erosion emissions.

Comment 150-44: Assumptions used for reserves calculation are dubious.

Response: Section 3.1.1.2 presents a discussion of gas reserves underlying the DFPA. The estimates of recoverable reserves (page 2-30), the 65 percent success rate and the estimates of per/well production (page 4-102), were provided by the Operators. As stated in Section 2.0 (page 2-10), "The Operators anticipate that future development in the DFPA would be concentrated within or near existing fields rather than in outlying areas where development does not currently exist." The Operators have the most detailed and current drilling, geological, geophysical and engineering data regarding these fields and the underlying formations, and the most detailed and current information about the cost of development and production.

Comment 150-45: Employment Estimates in the DFEIS are overblown.

Response: The comment references Section 3.12.2.3 which describes historic earnings and unemployment in the two affected counties. Direct and indirect employment, income and economic activity estimates associated with the Proposed Action were obtained from the input-output-model, and discussed in Section 4.12.3.1.1. Information for Alternatives A and B are provided in subsequent sections. Employment is discussed in terms of annual job equivalents (AJE), which "reflect an aggregation of all employees whose employment is supported in part by Desolation Flats spending." In addition to new job opportunities, AJE's include currently employed workers whose continued employment would be sustained in part by Desolation Flats-related economic activity. This would be particularly true for indirect employees and for some natural gas service workers. Many of the latter are also likely to be based in regional oil and gas service centers, some outside the DFPA, and relocate to the DFPA only for the duration of their task.

The relatively small population associated with the Proposed Action, described in Section 4.12.3.1.3, would be distributed across the two counties and would be unlikely to strain public facilities in the larger communities, but could contribute to increased public facility and service demand in smaller communities near the DFPA, as described in Section 4.12.3.1.5 and in the cumulative discussion in Section 5.3.12

The commenter is correct that Carbon County inflation adjusted earnings should be 16 percent rather than 21 percent. This figure has been corrected in the FEIS.

Comment 150-46: Increased gas revenues will not necessarily buoy local economies.

Response: The term "increased earnings" implies an incremental increase over base earnings (without project) for the period rather than an absolute increase in earnings. For example, total historic Carbon County earnings described in Section 3.12.2.3 would be decreased or reduced without the oil and gas earnings described in that same section. Specific project-related earnings estimates are contained in 4.12.3.1.1 and in Tables 4-19 through 4-21. It is correct that earnings associated with the Proposed Action and alternatives would not necessarily buoy local economies, but these earnings would result in higher levels of income than would occur absent the development.

Comment 150-47 Local communities infrastructure would be strained by the project.

Response: The comment addresses Section 3.12.5 which describes existing infrastructure conditions in communities near the DFPA. Section 4.12.3.1.5 describes the Proposed Action-related effects on law enforcement services and says, in part, "Law enforcement and emergency service agencies may need to expand their capabilities to provide adequate coverage in areas experiencing natural gas development." The activity and growth associated with the Proposed Action would contribute to that demand and also provide local and state government revenues to offset the costs of providing those services. Information for Alternatives A and B are provided in subsequent sections.

Section 3.12.5 describes measures that the Town of Wamsutter is currently undertaking to accommodate growth from current and planned drilling and field development operations of existing operators within the area. These conditions are also discussed at some length in Section 5.3.12. At the time of this comment response, a number of these infrastructure and service improvements have been accomplished or are underway. Many of the sources of community infrastructure funding in Wyoming, including certain grant and loan programs, are supported by natural gas severance tax revenues and by the state's share of federal mineral royalties from natural gas production. It is appropriate for communities to receive a portion of these funds to accommodate natural gas-related growth.

Also discussed in Section 4.12.3.1.5, general natural gas-related growth in smaller communities near the DFPA may result in the need for certain infrastructure improvements during the 20-year drilling and field development period, and the population associated with the Proposed Action and alternatives would contribute a portion of the demand for those improvements. The timing, size and costs of those improvements would be dependent on a variety of factors including community development decisions by local governments. Because these factors are not currently known, estimates of the costs of such improvement cannot be included in this assessment.

Comment 150-48: Sales and use tax benefits of the project are overblown.

Response: Section 3.12.6.2 describes historical sales and use tax revenues for the two affected counties. Section 4.12.3.1.6.3 and Table 4-24 present estimates of the portions of Proposed Action-related sales and use tax that would accrue to the county and its municipalities as well as to the State of Wyoming. Sections 4.12.3.1.6.1 and Table 4-22 describe the project-specific ad valorem property taxes that would accrue to relevant taxing entities. Section 4.12.3.1.6.2 and table 4-23 display estimates of severance tax and mineral royalties that would accrue from the Proposed Action. A portion of these latter revenues would accrue to a variety of funds that the State of Wyoming uses to fund infrastructure improvements in communities; it is appropriate that some of these funds are distributed to fund improvements in communities near the DFPA.

Comment 150-49: Impact significance criteria have been improperly applied.

Response: The analysis contained in Section 4.12.3.1.3 and Figure 4.12 detail estimates of population growth associated with the Proposed Action and describe the anticipated distribution of that growth, primarily to larger communities with excess infrastructure capacity. Further, it is anticipated that most project employees would require short-term housing accommodations in motels and mobile home or recreational vehicle parks, which are in ample supply, although in some cases in communities at some distance from the project area. As noted above, the effects of Proposed Action-related demand for local government facilities and services are described in Section 4.12.3.1.5, and the effects of the Proposed Action in the cumulative context are described in Section 5.3.12.

Comment 150-50: Cost estimates for local communities to provide services in support of the project have not been quantitatively addressed.

Response: Section 4.12.3.1.3. discusses the relatively small increment of population anticipated for the Proposed Action. Section 4.12.3.1.5 states that local government infrastructure improvements and increases in service levels will likely not be required to serve this relatively minor increment of project-related growth. Section 5.3.12 discusses the cumulative development that may occur. Given that decisions to improve infrastructure and increase service levels may or may not occur and would involve a variety of factors, the timing, size and costs of such improvements cannot be estimated for this assessment.

Comment 150-51: Only effects to local ranchers have been considered in the DEIS.

Response: Section 4.12.3.1.7 describes potential effects of the Proposed Action on local attitudes and opinions for a variety of different groups, including livestock operators and recreation users. Section 4.9 discusses potential temporary and permanent displacement of recreation users of the DFPA. It is important to remember that grazing allotments are the aspects of ranching that will be most directly affected by the Proposed Action and alternatives, rather than private ranch lands.

Comment 150-52: "Organizational Response" is an inappropriate criteria for significance.

Response: Section 4.12.3.1.7 discusses potential effects of the Proposed Action on local attitudes and opinions and also states that individuals and organizations with other interests in the DFPA and other relatively undisturbed public lands may be affected by the actions associated with the Proposed Action. Based on scoping responses and comments on the DEIS, the BLM is aware that people outside the surrounding communities have an interest in activities within the DFPA and these interests will be considered in the decision making process.

NEPA does not require that the attitudes and opinions of all parties with an interest in federal actions be quantified, nor does it require estimates of non-market costs.

COMMENT LETTER 151: KATHLEEN C. ZIMMERMAN, NATIONAL WILDLIFE FEDERATION; LARRY BEESLER, WYOMING WILDLIFI FEDERATION; AND JOHANNAH H. WALD, NATURAL RESOURCES DEFENSE

Comment 151-1: The Draft EIS for DFP fails to provide that true picture of the impacts of those wells because it offers no alternative that would prohibit or even limit oil and gas development in the area.

Response: An alternative that would prohibit oil and gas development in the area is outside the scope of the Desolation Flats project area (DFPA) environmental assessment process. The alternatives assessed in the DFPA Draft Environmental Impact Statement (DEIS) do not analyze "prohibiting or limiting development", consistent with the National Environmental Policy Act (NEPA) they analyze the impacts of approving or not approving development as proposed. If selected, the proposed action and alternative A would each prohibit development above the level analyzed by them in the EIS process. Alternative B (no action) analyzes the effects of not approving either of the "action" alternatives.

Measures to ensure wild lands or wildlife habitat impacts are minimized in Desolation Flats are detailed in Chapter 2, part 2.5.2.11, "Project Wide Mitigation Measures" and in the "Additional Mitigation Measures" sections in Chapter 4 for some resources.

Comment 151-2: Cumulative impacts from other projects in the Red Desert area are assumed insignificant without any substantiation.

Response: Impacts from oil and gas development for the DFPA are disclosed and discussed in general in Chapter 4, in the "Direct and Indirect Impacts, "Impacts Summary", and Residual Impacts" sections of the various resources analyzed. Chapter 5:"Cumulative Impacts Analysis" has a detailed analysis of cumulative effects for the DFPA.

The DEIS, in Chapter 4, "Soils", page 4-34, (2'nd full paragraph) states in part:

> "Therefore, the overall potential for successfully stabilizing disturbed soils is poor to fair. Field reconnaissance and review of existing reclamation in the project area suggests that successful reclamation can be attained with aggressive reclamation measures and follow-up monitoring and remediation."

Additional details on reclamation can be found in Appendix C.

Comment 151-3: Unless existing mineral leases contain NSO stipulations, BLM cannot assure the protection of wildlife habitats.

Response: Your assertion that BLM cannot ensure habitats will be protected from environmentally harmful drilling and road construction when "no surface occupancy" stipulations are not included in an oil and gas lease's term is wrong. Section 6 of the Lease Terms, found on Form 3100-11b "Offer to Lease and Lease for Oil and Gas" states in part:

> "Conduct of Operations- Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by lessor to accomplish the intent of

> this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures."

BLM's ability to uphold environmental constraints upon Operators has been affirmed by Internal Board of Land Appeals decisions and by higher courts. Generally mitigations are used to reduce or eliminate adverse environmental effects. On page 2-32, Chapter 2, part 2.5.2.11, "Project Wide Mitigation Measures" the DEIS states in part:

> "Following are mitigation measures and agency required procedures on public lands to avoid or mitigate resource or other land use impacts."

A detailed resource specific list follows this statement that provides constraints, techniques, and timing mitigations that will be used within the DFPA. The BLM can, and will require Operators to utilize mitigation measures deemed necessary by the BLM to reduce or eliminate adverse impacts from activities proposed within the DFPA. Although the BLM can require no surface occupancy when necessary, it is seldom needed in real life when alternative siting and mitigations are available. This is true even if "no surface occupancy" is not a listed stipulation on a lease.

Comment 151-4: Proposed development of 400 to 600 wells in DFPA is not in conformity with the GDRMP. The DEIS ignores the very real impacts of habitat fragmentation.

Response: Habitat fragmentation is not expected to be a principle impact within the DFPA as detailed in Chapter 4 (page 4-56), "Introduction". Impacts of oil and gas development are analyzed and disclosed in Chapter 4 of the DEIS.

"Plugged and abandoned" wells do not count towards the disturbance figure because they do not enter that category until they have been site reviewed and accepted as reclaimed by the BLM. "Notice of intent to abandon" wells may be reclaimed but not yet accepted, but since no empirical data is available they are not counted in the DEIS as reclaimed. Additional text added in the Final Environmental Impact Statement (FEIS) further clarify the reclamation status of the various well status categories.

Comment 151-5: The Proposed Action is not in conformity with the VRM provisions in the applicable land use plans.

Response: The proposed action proposes the construction of 237 producing wells. For Alternative A it is 373 wells. The DFPA FEIS has more analysis of surface disturbance based on conditions observed and implemented within the DFPA from interim drilling and exploration. The Adobe Town WSA is outside the boundaries of the DFPA. As detailed on page 40 of the Great Divide Record of Decision and Approved Resource Management Plan, the DFPA is designated as Visual Resource Management Class III. DFPA effects on visual resources are further described in Chapter 4 under "Visual Resources".

Comment 151-6: Mitigation measures are inadequate to preserve wildlife and wildlife habitat.

Response: BLM has adopted standard conditions of approval and mitigation measures for surface disturbance impacts from oil and gas operations over a considerable period of time. Those measures and procedures are considered part of the proposed action and are described in Chapter 2 of the DFPA DEIS. These conditions and mitigations have been developed by the BLM from observations of the effectiveness of the mitigation or condition, and adaptive modification of the mitigation to make it better when needed, or when better techniques are developed. The actions envisioned for the DFPA are common and their effects well known. Generally the BLM's standard mitigation measures and conditions of approval are adequate to avoid or repair adverse impacts to the environment. Where standard procedures are not expected to work or results are uncertain for some reason, the BLM adapts procedures and monitors results to ensure unacceptable effects on the environment are avoided. For example, wildlife mitigation and monitoring studies are being conducted in several oil and gas fields such as CD/WII and the Pinedale Anticline to further improve our knowledge regarding how oil and gas may impact wildlife species and better determine the effectiveness of our currently prescribed protection measures. Wildlife mitigation and monitoring is also a part of the Desolation Flats proposal, see DEIS Appendix H.

Comment 151-7: NWF, WWF, and NRDC urge BLM to complete a supplemental DEIS.

Response: The BLM does not believe additional alternatives nor a supplemental draft EIS for the DFPA are necessary. The FEIS accurately reflects the environmental effects expected for this proposal.

Comment 151-8: The alternatives analysis if flawed.

Response: Each of the alternatives analyzed in the DFPA DEIS reflects BLM's authority to control the pace and direction of development on the public lands. The conservation of wildlife and their habitats is a key responsibility of the BLM and the DFPA DEIS reflects that responsibility. Alternative B is appropriate as written and analyzed. APD's would not necessarily be approved as they were submitted. Each proposed action would be reviewed, subjected to environmental analysis, and a decision would be issued to disclose the BLM's choice as appropriate. Based on scoping, internal reviews and input from the Operator's the BLM developed a range of alternatives it believes fully conforms to the requirements of NEPA. Details of alternatives considered but eliminated from detailed study is located in the DEIS on pages 2-42 to 2-43.

Comment 151-9: The Draft EIS fails to address the true impacts on wildlife.

Response: Please refer to our response to comment 3.

Comment 151-10: Additional impacts not addressed in the Draft: Native American sacred sites, hunting, tourism.

Response: The FEIS further addresses impacts and process used to limit and/or avoid adverse impacts within the DFPA. Further information on consultation with Native American tribes with interest in the area is also provided. An appendix has been added (Appendix B) that details the archeological survey process and types of review utilized in cultural resource inventories.

Effects of DFPA on hunter and other recreation experiences are detailed in Chapter 4, "Recreation Resources", particularly in 4.9.3.1. Further detailed analysis of socio-economic effects of is found in Chapter 4 at 4.12.3.1.2 "Effects on Other Economic Activities in the Vicinity of the Proposed Action". That economic impact is adequately addressed in the DEIS and will be retained in the FEIS.

Comment 151-11: The proposed action does not conform to the existing land use plan.

Response: The 1440 well Reasonably Foreseeable Development (RFD) scenario, does not represent a planning decision, rather it is an assumption to analyze the effects that discretionary management decisions have on oil and gas activity. The Great Divide RMP and the oil and gas RFD scenario recognizes development on two levels; 1) number of wells permitted and 2) amount of surface disturbance associated with development. 1,440 wells you mention was just one of the assumptions used, along with other data to determine the effects of oil and gas development. The number of wells permitted is one RFD reference point, the number of surface acres disturbed per well represents another. Surpassing one of these points does not necessarily mean additional development cannot occur. One consideration is the extent of disturbance per well has reduced steadily over the planning period resulting in less disturbance impacts than anticipated per well. Should the number of wells and the level of surface disturbance exceed those analyzed in the Great Divide RMP, BLM would re-examine the RMP assumptions and compare them to actual on-the-ground impacts to determine if further oil and gas exploration and development is an appropriate action.

In the FEIS long-term disturbance has been re-evaluated using Desolation Flats specific information. The Draft utilized the information from Continental Divide/ Wamsutter II which was the most up to date information. With data developed from interim drilling the FEIS uses that data to calculate long-term disturbance, and insure compliance with the reasonably foreseeable development assessment from the Great Divide Record of Decision and Approved Resource Management Plan. Habitat fragmentation is not expected to be a principal environmental impact within the DFPA (page 4-56), "Introduction". Text clarifying well status in the various categories detailed in the Wyoming Oil and Gas Conservation Commission's records is included in the FEIS. "Plugged and abandoned" (P&A) wells are well pads that were drilled and at some point abandoned. To enter into P&A status, the wells must be plugged, abandoned, reclaimed and subsequently inspected and accepted as reclaimed by the BLM. Wells in the status of "notice of intent to abandon" (NOIA) fit into two categories, either plugged, abandoned, and awaiting reclamation or plugged, abandoned, reclaimed and awaiting acceptance by the BLM. For the purposes of analyzing long-disturbance levels, no NOIA wells are considered reclaimed. Wells listed as "dormant", "completed", "spud", or "notice of intent to abandon" are counted as long-term disturbance based on experience at the Desolation Flats. The per well long-term disturbance figure has been increased slightly to insure the figure is accurate yet still conservative. Long term disturbance within the RFO will still be below the 16,092 acres maximum provided for in the Great Divide RMP for both alternatives.

Comment 151-12: Visual resources.

Response: In the DEIS, the full text of the passage you cite reads:

> "The short term impacts would exceed the level of contrast permitted in both Class 2 and Class 3 areas; however, because the contrasts would be seen by relatively few viewers and would be short in duration in any one area during a drilling season, they would not be considered significant."

Significant or not, this information is provided to show the impacts of implementing the proposed action and alternatives, and to ensure the best decision possible is made in this matter.

Comment 151-13: Wildlife resources and management.

Response: Habitat fragmentation is not expected to be a principle impact within the DFPA (page 4-56), "Introduction". As new roads, pipelines and well site locations are proposed by the operators, the BLM will review the proposals under NEPA with site specific environmental assessment (EA) tiered to the Desolation Flats Record of Decision and in turn issue a decision record and apply mitigations for those proposals. That, coupled with the environmental analysis in the DFPA EIS will be sufficient to satisfy NEPA requirements. Site specific decisions will be tiered to the Desolation Flats EIS and Record of Decision (ROD) and will be separate from the EIS process. Also, please refer to our response to comment 150-3a.

Migration routes for pronghorns are discussed in Chapter 4, page 4-60. Migration routes for mule deer are discussed in Chapter 4 on page 4-61. Elk migration routes are discussed on page 4-63 in Chapter 4. The DEIS at the same spot states in part:

> "Potential elk migration routes are not expected to be impacted because no linear barriers such as fences would be constructed."

This is also true for the other big game species analyzed in Desolation Flats.

Comment 151-14: Big Game.

Response: The FEIS, like the DEIS, addresses the impact of habitat fragmentation and loss of ecological connectivity on big game habitats in the DFP area and within the ranges of affected herds. Please refer to our response to comment 151-13.

Comment 151-15: Mountain plover.

Response: For the proposed action, the DEIS, on page 4-75 states in part:

> "Mountain plovers often nest near roads, feed on or near roads, and use roads as travel corridors (USDI-FWS 1999), all of which make the species susceptible to being killed by vehicles."

Further on in the text, at page 4-76 it is stated:

> "Given the implementation of mitigation measures in Sections 2.5.2.11.2 and 4.8.1.4, no adverse effect to mountain plovers are expected."

Alternative A effects are discussed on page 4-78.

Comment 151-16: Sage-grouse

Response: The sage grouse is a BLM sensitive species, listed as such on 04/09/2001. Because of this status no actions that might jeopardize the future existence or viability of this species may occur. Sage grouse populations have been declining for many years. The Great Divide Resource Management Plan (RMP) in Appendix I lists sage grouse in several areas of the Wildlife Mitigation Guidelines including 2b and 2c. 2c provides for the prohibition of surface activities or use within important habitat areas for the purpose of protecting sage grouse breeding grounds and or habitat where timing stipulations are not appropriate. The purpose of the Guidelines are (1) to reserve for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. The Guidelines in the RMP are not specific as to the distance an action must be moved to mitigate impacts of a proposal on sage grouse. Literature reviews show that requirements for no surface disturbance (NSD) from a lek generally run in the 0.25 to 2 mile range. The ¼ mile NSD mitigation is generally a minimum distance. Additionally, another mitigation listed on page 2-38 states that no surface disturbance would be allowed within identified patches of greater sage-grouse severe winter relief habitat. 4.7.3.1.4 "Upland Game Birds" page 4-67 states in part:

> "Through seasonal closures, reclamation, avoidance, and mitigation measures, significant impacts to the greater sage grouse population would not be expected to occur as a result of implementation of the Proposed Action."

Comment 151-17: Prairie dogs, burrowing owls, swift fix, and black-footed ferret.

Response: Mitigations for white-tailed prairie dogs are discussed generally in Chapter 2, and specifically on page 2-39. The presence of white-tailed prairie dogs and the affected environment are discussed in Chapter 3, especially on pages 3-71 and 3-73. Prairie dogs are also discussed in Chapter 4, especially on pages 4-74 and 4-82. On page 4-82, "White-tailed Prairie Dog" reads, in part:

> "If white-tailed prairie dog colonies that provide suitable black-footed ferret habitat are to be disturbed, then black-footed ferret surveys would be conducted (see section 4.8.1.2.1). It is preferred by the BLM that no disturbance occur within 50 meters of prairie dog colonies, where feasible."

Expected effects on white-tailed prairie dogs are discussed in Chapter 4, especially on pages 4-74 and 4-82. It states at 4-82:

> "The anticipated disturbance of white-tailed prairie dog colonies is expected to be low, and no significant impacts to the white-tailed prairie dogs are expected."

Creating no surface occupancy restrictions on oil and gas development and protection from other surface-disturbing activities is outside the scope of the DFPA.

Comment 151-18: Endangered Fish

Response: The DEIS, in Chapter 3, at 3.8.1.2 page 3-68 states:

> "Surface water is scarce and perennial streams within the DFPA are limited to the most downstream portion of the Sand Creek drainage during wet years (see Section 3.4.2.1)."

In the next paragraph it is stated

> "None of these fish species are likely to be found in streams within the DFPA, nor has critical habitat been established in Wyoming for any of these species (Upper Colorado River Endangered Fish Recovery Program, 1999)"

On page 3-39 the DEIS states in part

> "All streams within the project area are Class 5 streams (incapable of supporting fish)" (WGFD 1991).

On page 3-37 the DEIS states:

> "There are no naturally occurring lakes or ponds in the project area."

On page 3-45, earlier in the same paragraph you quoted from, the DEIS states:

> "The quality of water in the various geologic formations underlying the Washakie Basin range from poor to good."

It is possible that produced water, if any, could have poor water quality. In Chapter 4, page 4-44 the DEIS states:

> "Methods used for the disposal of produced water (water produced in association with the gas which is separated out at the well location) would vary but would generally be accomplished by either (1) disposal in an underground injection well, (2) surface discharge or (3) surface evaporation in lined or unlined ponds. The operators would obtain the permit(s) necessary (i.e. NPDES) for the selected method. Depending on timing of availability, quantity and quality of produced water; some of the produced water could be used in well drilling and completion, and pipeline construction and hydrostatic testing."

Any water discharge to the surface would have to be approved by the Wyoming Department of Environmental Quality under a National Pollutant Discharge Elimination System (NPDES) permit. In order to issue the permit, the DEQ must determine the proposed action will not violate the Clean Water Act and any other applicable laws, rules and regulation.

The effects of the proposed action are analyzed for Special Status fish species in Chapter 4, especially on pages 4-73, (Threatened, Endangered or Proposed for Listing Species of Plants, Wildlife and Animals, including bonytail, Colorado pike minnow, humpback chub and razorback sucker), and pages 4-76/77 (environmental effect expected to the those fishes from the proposed action), and page 4-78 for alternative A. Sensitive species of fish are also found in Chapter 4, especially on pages 4-86 and for Alternative A page 4-89. The EIS concludes that implementation of the proposed action is not likely to adversely affect these fish species.

Comment 151-19: NWF, WWF, and NRDC urge BLM to suspend the issuance of new APDs until a new RMP for RFO can be completed.

Response: Prior to Record of Decision (ROD) for the DFPA, the BLM will issue APDs in the DFPA when the proposed action complies with the guidance in the interim drilling plan. It is anticipated that this will occur prior to the completion of the on-going RMP review process.

COMMENT LETTER 162: JODI L. BUSH, ACTING FIELD SUPERVISOR, USFWS

Response: See responses to Comment Letter 145, which is a duplicate of this letter.

COMMENT LETTER 164: SHELA BREMER, REGULATORY COORDINATOR, EOG RESOURCES

Response: See responses to Comment Letter 123, which is a duplicate of this letter.

COMMENT LETTER 165: TED KERASOTE

Response: Thank you for your comment.

COMMENT LETTER 167: LAIRE MOSELEY, PUBLIC LANDS ADVOCACY

Response: Thank you for your comment.

COMMENT LETTER 168: ANDY SHULSTAD

Response: Thank you for your comment.

COMMENT LETTER 169: BRYAN WYBERG

Response: Thank you for your comment.

APPENDIX A

FORMAL AND INFORMAL CONSULTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4000 Airport Parkway
Cheyenne, Wyoming 82001

1 FM
2 AFM-SC
AFM-RES
AFM-M&L
ADMIN
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Sam
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RA-RES
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3 NEPA
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In Reply Refer To:
ES-61411/W.02/WY8087

March 26, 2004

Memorandum

To: Kurt Kotter, Field Manager, Bureau of Land Management, Rawlins Field Office, Rawlins, Wyoming

From: Brian T. Kelly, Field Supervisor, U.S. Fish and Wildlife Service, Wyoming Field Office, Cheyenne, Wyoming

Subject: Formal and Informal Consultation for the Desolation Flats Natural Gas Project

Thank you for your letter of February 24, 2004, regarding the proposed Desolation Flats natural gas project located in T13-16N, R93-96W, in Sweetwater County, Wyoming. The project includes 385 natural gas wells and associated facilities in an area where 63 gas wells currently exist. You have requested concurrence for your determination of effects to listed and proposed species from this project pursuant to the Endangered Species Act of 1973, as amended (Act), 16 U.S.C. 1531 *et seq*. The U.S. Fish and Wildlife Service (Service) is providing you with concurrence and comments based on the information you have provided in your letter as well as the biological assessment (BA) included in the *Draft Environmental Impact Statement for the Desolation Flats Natural Gas Field Development Project* (April 2003).

You have stated that two white-tailed prairie dog (*Cynomys leucurus*) complexes have been mapped within the Desolation Flats project area. The complexes total nearly 10,000 acres and may provide habitat for black-footed ferrets (*Mustela nigripes*). As you know, because of recent efforts by the Service, the Wyoming Game and Fish Department and other agencies, several areas where prairie dogs occur in Wyoming have been "block cleared" from survey requirements. Please refer to our attached letter for clarification on this matter.

At this time, prairie dog towns and complexes within the Desolation Flats project area have not been "block cleared" and may warrant surveys pursuant to the *Black-Footed Ferret Survey Guidelines* (April 1989). The Service concurs with your "may affect, but not likely to adversely affect" determination for the black-footed ferret based on your commitment to conduct surveys prior to disturbance. Should a ferret or their sign be observed you have stated that all project related activities would be modified to avoid the respective town or complex and the Service would be notified immediately.

You have stated that the Desolation Flats project area does not provide suitable habitat for Canada lynx (*Lynx candensis).* However, your letter also states that the project "may affect, but is not likely to adversely affect" the lynx. To clarify your effects determination we contacted Mary Read, wildlife biologist, of your office on March 26, 2004. Ms. Read confirmed that no suitable habitat occurred within, or near the project area. Upon reviewing the potential effects to Canada lynx she believed that there would be "no effect" to the species from this project. The Service's concurrence for a "no effect" determination is not required. However, we appreciate the information the Bureau of Land Management (Bureau) has provided and their extensive review of the species status and potential effects from this project.

You have stated that the Desolation Flats project area does not provide nesting or roosting habitat for the bald eagle (*Haliaeetus leucocephalus*). However, you have indicated that bald eagles may occasionally fly over the project area. Additionally, due to vehicular traffic on project roads, there may be an increase in wildlife-vehicle collisions, perhaps resulting in carrion that may attract bald eagles to feed. The Service concurs with your "may affect, but not likely to adversely affect" determination based on (1) your commitment to implement training for regular project area drivers that will encourage decreased speeds and other measures to avoid collisions with eagles, and (2) encourage immediate removal of carcasses from the right of way. These measures will reduce the bald eagles presence within the project area and minimize potential effects.

Your letter states that the permittee will be allowed to obtain water, for dust abatement, from wells that are not hydrologically connected to the Colorado River System. However, you further state that a third party contractor could mistakenly obtain water from a location that is indeed hydrologically connected to the system. Therefore you have requested formal consultation for your determination of effects to the four endangered fishes of the Colorado River system from water depletions from this project. In accordance with section 7 (a)(2) of the Act, the Service has reviewed the information you have provided regarding the effects. We understand that the proposed action will cause an average annual depletion of 2.30 acre-feet.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) was initiated on January 22, 1988. The Recovery program was intended to be the reasonable and prudent alternative to avoid jeopardy to the endangered fish by depletions from the Upper Colorado River.

In order to further define and clarify the process in the Recovery Program, a section 7 agreement was implemented on October 15, 1993, by the Recovery Program participants. Incorporated into this agreement is a Recovery Implementation Program Recovery Action Plan (Plan), which identifies actions currently, believed to be required to recover the endangered fish in the most expeditious manner in the Upper Colorado River Basin.

A part of the Recovery Program was the requirement that if a project was going to result in a depletion, a depletion fee would be paid to help support the Recovery Program. On July 5, 1994, the Service issued a biological opinion determining that the fee for depletions of 100 acre-feet or less would no longer be required. This was based on the premise that the Recovery Program has made sufficient progress to be considered the reasonable and prudent alternative avoiding the likelihood of jeopardy to the endangered fishes and avoiding destruction or adverse modification of their critical habitat by depletions of 100 acre-feet or less. Therefore, **the depletion fee for this project is waived.**

Permits or other documents authorizing specific projects, which result in depletions, should state that the Bureau of Land Management (Bureau) retains discretionary authority over each project for the purpose of endangered species consultation. If the Recovery Program is unable to implement the Plan in a timely manner, reinitiation of section 7 consultation may be required so that a new reasonable and prudent alternative can be developed by the Service.

This concludes consultation pursuant to the regulations implementing the Act, 50 C.F.R. §402.14 and §402.13. This project should be re-analyzed if new information reveals effects of the action that may affect listed or proposed species or designated or proposed critical habitat in a manner or to an extent not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to a listed or proposed species or designated or proposed critical habitat that was not considered in this consultation; and/or, if a new species is listed or critical habitat is designated that may be affected by this project.

To further the conservation of the bald eagle we recommend that the Bureau contact the Service's Wyoming Field Office at (307) 772-2374 and the Service's Law Enforcement office at (307) 261-6365 in the event that a bald eagle is found injured or dead. We further recommend that any and all electrical power lines be constructed to meet the standards of the Avian Power Line Interaction Committee (APLIC 1996) to protect migratory birds, including eagles.

To further the conservation of prairie dog ecosystems we recommend that the Bureau minimize disturbance within prairie dog towns to protect the many species that depend on these unique areas such as burrowing owls, mountain plovers, black-footed ferrets, ferruginous hawks and the prairie dog themselves.

We appreciate your efforts to ensure the conservation of endangered, threatened, and candidate species and migratory birds. If you have further questions regarding our comments or your responsibilities under the Act, please contact Kathleen Erwin of my staff at the letterhead address or phone (307)772-2374, extension 28.

Enclosures (1)

cc: WGFD, Statewide Habitat Protection Coordinator, Cheyenne (V. Stelter)
WGFD, Non-Game Coordinator, Lander (B. Oakleaf)

References

Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Raptor Protection on Power Lines - The State of the Art in 1996. Edison Electric Institute and the Raptor Research Foundation. Washington, D.C.

APPENDIX B

CULTURAL RESOURCE MANAGEMENT

CULTURAL RESOURCES MANAGEMENT

Program Objectives

The BLM has developed a cultural resources program designed to inventory, evaluate, and manage cultural resources on BLM-administered public land and in areas of BLM responsibility. The BLM management of cultural resources (archaeological, historic, and socio-cultural properties) is in accordance with the provisions of the National Historic Preservation Act (NHPA) of 1966, as amended, and other applicable legislation.

Identification of Cultural Resources

The BLM requires cultural resource inventories for actions involving public lands and/or federal mineral estate that include surface disturbance as a part of the action. Three classes of inventory have been established; Class III is the most intensive and the most often required for areas that have not been subjected to previous inventories or have been subjected to complete surface disturbance in the past.

Class I inventories are completed with the use of existing data from cultural resource inventory files maintained by both the BLM and the Wyoming State Historic Preservation Office (SHPO). Class I inventories serve to identify known properties and are used to determine if more intensive inventory of specific areas is appropriate. This determination is made in consultation with the Wyoming SHPO and often results in the completion of Class II or Class III inventories.

Class II inventories are statistically based sample surveys designed to aid in characterizing the probable density, diversity, and distribution of cultural properties in the area, to develop and test predictive models, and to answer appropriate research questions. Within individual sample units, survey aims, methods, and intensity are the same as those applied in Class III survey. Class II survey may be conducted in several phases, using different sample designs, to improve statistical reliability.

Class III intensive field surveys are conducted by professional archaeologists thorough pedestrian survey of an entire target area. The intent of a Class III inventory is to locate and record all historic properties and is consistent with standards in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716). Class III inventories conform to the prevailing professional survey standards for the region involved, provided that the regional standards meet or exceed the Secretary's Standards and Guidelines. Because Class III survey is designed to produce a total inventory of the cultural properties observable within the target area, once it has been completed no further survey work should be needed in the target area as long as the current standards are met. Areas with a high probability of containing buried cultural materials or known cultural materials may require additional work of professional monitoring and/or data recovery excavations. Areas that require additional work are analyzed on a case-by-case basis, depending on the proposed action and the types of cultural resources present in the project area.

Evaluation of Cultural Resource Sites

The BLM evaluates the significance of cultural resources identified during inventory in consultation with the Wyoming SHPO to determine if the resources are eligible for inclusion in the National Register of Historic Places (NRHP). Cultural resource properties may be considered eligible for listing on the National Register if they meet one or more of the following criteria:

- Criterion A: An historic property is associated with an event or events that have made a significant contribution to the broad patterns of America's History.
- Criterion B: An historic property is associated with the lives of persons significant to our past.
- Criterion C: An historic property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic value or represents a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D: An historic property has yielded or may be likely to yield information important in prehistory or history.

Those sites eligible under Criteria A, B, or C require case-by-case consultation in which the Wyoming SHPO has 30 days to reply. According to a Programmatic Agreement between the Wyoming BLM and the Wyoming SHPO, the BLM has implied concurrence for determining eligibility of sites under Criterion D of the NHPA.

- To facilitate evaluation of cultural resource values in Wyoming, the BLM has devised guidelines for determining the eligibility of archaeological and historical sites and historic trails (BLM Manual 8110.32). The guidelines supplement the National Register criteria for evaluation (36 CFR 60.4) and provide consistency across the state. Application of the guidelines ensures that significant cultural resources are recognized and managed accordingly.

Properties that encompass large areas can be deemed to have contributing and non-contributing portions. Contributing portions are seen to retain integrity of the values for which the property is considered eligible for the NRHP. Non-contributing portions are identified portions of the property which are not deemed to retain the integrity of values which would render the property eligible for the NRHP. The determination of contributing versus non-contributing portions of an eligible property can be made at any time after adequate evaluation has been conducted.

The historic Cherokee Trail is considered eligible for the National Register under Criterion A. However, some portions of the trails no longer retain the aspects of integrity necessary for eligibility. As there have been no encompassing inventories of the entire trail within the RMPPA, portions of the trail are evaluated to determine if they contribute to the eligibility of the property on a case-by-case basis. Trail segments are evaluated pursuant to the National Register criteria of integrity (location, design, setting, materials, workmanship, feeling, and association). If a predominance of criteria are met, the segment will be considered contributing to the properties' overall NRHP eligibility.

STANDARD PROTECTIVE MEASURES

Description

Within the framework described above, the BLM has developed protective measures to minimize adverse effects on significant cultural resource values.

Protective measures are used in response to the actions of BLM programs involving surface disturbance. These measures include cultural resource inventories, evaluation of cultural resources located during inventory, and mitigation of potential adverse impacts on significant cultural resources. Mitigation may include avoidance, data recovery (including excavation), or other protective measures. Avoidance is the primary and preferred mitigative measure used to protect cultural resources. Consultation with the Wyoming SHPO and the Advisory Council on Historic Preservation is required when surface-disturbing actions are expected to adversely affect properties eligible for the National Register. An adverse effect to an historic property is defined in 36 CFR 800.5(1)..

Although Class III inventories are completed before any surface disturbance can begin, the BLM's opportunity to preserve significant cultural resource values in place can be precluded if cultural properties are not identified prior to initiation of an action. In cases such as this, mitigative actions such as data recovery would be implemented.

For historic trails such as the Cherokee Trail, protection measures would be carried out similarly to other historic properties if any project were found to be located within ¼ mile of a contributing portion of the historic trail. When a proposed project is outside of the ¼ mile buffer of the trail, but found to be within the two-mile viewshed that contributes to NRHP eligibility, analyses of potential impacts to the trails are conducted through viewshed analyses, on-site inspection, and photo inspection. Mitigation measures used to ensure that the contributing viewshed of historic trails are not adversely affected include decreasing the height of well tanks, using paint and topography to blend well locations into the background, mowing and reseeding pipeline corridors, and using materials that match the existing environment to construct access roads.

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